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# Gleanings

Bee Culture





The speckled sky is dim with snow.
The light flakes falter and fall slow;
Athwart the hilltop, rapt and pale,
Silently drops a silver veil,
And all the valley is shut in
By flickering curtains gray and thin.
On turf and curb and bower-roof
The snow storm spreads its ivory woof.

The hooded beehive, small and low, Stands like a maiden in the snow; All day the blasted oak has stood A muffled wizard of the wood; Garland and airy cap adorn The sumac and the wayside thorn, And clustering spangles lodge and shine In the dark tresses of the pine.

- Trowbridge.

1922
JANUARY
Vol. L No. 1

# LOWER PRICES

Pending the publication of our new catalog, send us your lists of requirements of bee supplies and we will quote you our new prices. New catalog out January, 1922, mailed on application.

THE MILLER BOX MANUFACTURING CO. LOS ANGELES, CALIF. "Griggs saves you freight."

## TOLEDO

By the time you read this our 1921 crop will be history. How about your Honey Cans, Combhoney Cases, Extractors? Let us know your wants. We can serve you promptly and well.

## Honey, New Crop

Send sample and say how much you have, kind, how packed, and price asked in first letter.

Beeswax always wanted.

### THE GRIGGS BROS. CO.

Dept. 25

Toledo, O.

"Griggs saves you freight."

## Changes in Personnel

Effective January 1, Mr. A. L. Boyden, formerly sales director and secretary of the A. I. Root Company of Medina, Ohio, will have full charge of The A. I. Root Company of California and make his permanent residence in California. His brothers, Mr. L. W. Boyden and Mr. R. W. Boyden, both having been long associated with the Medina organization, will be affiliated with the new California Company, the latter taking charge of the San Francisco office in Mr. Bostwick's place.

It is the aim of the new organization on the coast to give better service than ever before to the California beekeepers the year around.

The A. I. Root Co. of California Los Angeles - - - San Francisco



\* 1 3 3 6



## JANUARY, 1922

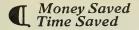
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## THE A. I. ROOT COMPANY, Publishers, Medina, Ohio

Editorial Staff

Geo. S. Demuth and E. R. Root A. I. Root H. H. Root H. G. Rowe Editors Editor Home Dept Assistant Editor M'n'g Editor



## Bee Supplies

Root's Goods at factory prices with WEBER'S service. Send us a list of your wants and we will quote you prices that will save you money.

C. H. W. Weber & Co.

2163-65-67 Central Ave.
Cincinnati, Ohio

## SUPERIOR FOUNDATION

While the hum of the bees grows fainter, the hum of our machinery grows stronger, preparing for another enormous spring demand for Superior Weed Process Foundation.

When buying secure the best.

Manufactured by

SUPERIOR HONEY CO., OGDEN, UTAH

## MR. BEEKEEPER----

We have a large plant especially equipped to manufacture the supplies that you use. We guarantee all materials and workmanship. We ship anywhere. We allow early order discounts and make prompt shipments.

We pay the highest cash and trade prices for beeswax.

Write for free illustrated catalog today.

LEAHY MFG. CO., 95 Sixth Street, Higginsville, Missouri

Texas Beekeepers should write to A. M. Hunt, Goldthwaite, Texas.

## A Happy New Year to You



Our 1922 catalog will be ready in January. Mail a list of your requirements for our special quotations.

The Fred W. Muth Company Cincinnati, Ohio

Indianapolis Is the Town You Want to Think of When You Need Beekeepers' Supplies

> Our stock is 90% new, which insures you of getting clean supplies. Write us for prices. Catalog for the asking.

The A. I. Root Company 873 Massachusetts Ave. Indianapolis, Ind.

## IT'S HERE! WE HAVE IT!

QUALITY BEE SUPPLIES

Polished Shipping Cases
One-piece covers and bottoms,
glass, paper, and nails included.
Selling at cost prices, as follows:

24-lb. for 17/8 sections, \$30.00 per 100. 12-lb. for 17/8 sections, \$17.00 per 100.

Write for illustrated catalog on our bee supplies. We are always ready to serve you.

### CHAS. MONDENG

146 Newton Ave. N. and 159 Cedar Lake Rd. MINNEAPOLIS, MINNESOTA

### HONEY MARKETS

### U. S. Government Market Reports.

INFORMATION FROM PRODUCING AREAS (FIRST HALF OF DECEMBER).

CALIFORNIA POINTS.—The general situation shows little change over that prevailing two weeks ago. Stocks continue to decrease and are much lighter than were those at the corresponding period last year. Demand is reported as light. Due to light supplies, the market, altho quiet, has a healthy tone. Alfalfa honeys are in heavier supply than white honeys. Quotations per lb. in carlots or less than carlot quantities, f. o. b. California points: White orange blossom, nominally 12-12½c; white sage, 11-12c; light amber sage, 8½c; light amber alfalfa, 6½-6¾c. Growers are said to be asking 10-13c per lb. for white orange blossom and 6½-7c for light amber alfalfa. Beeswax is in fair local demand at present at 20-25c, mostly 22c per lb. to the beekeepers, by bee-supply houses for use in making next season's foundation. Demand from the East is lacking, as imported wax offers too great competition. CALIFORNIA POINTS .- The general situation competition.

INTERMOUNTAIN REGION. — The unusually large volume of Hawmaiian honey coming into the country at prices considerably below asking prices for domestic stock is said to have a noticeable effect on the market in this area. Carlot sales of white sweet clover and alfalfa extracted in 60-lb. cans are reported at 8-8½c per lb. with less than carlot sales at 10-11c, and transactions in smaller containers high as 12½-15c per lb. Large lots of No. I white comb honey have been sold at \$4.25-4.50 per case. Beeswax market is very dull at 22-24c per lb. Many beekeepers are refusing to accept the prices offered by dealers.

SOUTHWESTERN STATES.—Honey movement from Texas is light, as the crop has been largely disposed of. It is reported that the bulk of the Texas honey movement usually occurs between May INTERMOUNTAIN REGION. -

disposed of. It is reported that the bulk of the Texas honey movement usually occurs between May and August. Demand is fairly good. Prices range 9-12c per lb. for light-colored extracted honey, in less than car lots, and 12-14c per lb. for chunk comb honey. A good demand is experienced for bulk comb honey in 3 and 5-lb. pails. Colonies are in exceptionally good condition. The crop in Salt River Valley, Ariz., is rapidly becoming exhausted. Sales of several cars are reported on a basis of \$7.00 per 120-lb. case, or just under 6c per lb. Bees are said to be in excellent condition for the winter.

winter.

EAST CENTRAL STATES.—The heavy demand earlier in the fall has absorbed a large part of the crop, and recent shipments have been only moderate. At present the market is rather dull, experiencing a pre-holiday lull, but a brisker demand is looked for earlier in the new year. The present outlook is that the market will be bare before the 1922 crop is ready. Increasing advertising, better financial conditions and shortage of canned fruits are listed as reasons for the improved demand for honey this season over that of last fall. Large lot sales of white clover in 60-lb. cans are firm at 10-12c per lb. with frequent transactions in smaller quantities at 13-15c per lb.

NORTHEASTERN SECTION. — Supplies of both white clover and buckwheat are light, as a result of unusual fall demand. The market price has strengthened slightly, and large lots of white clover in 60-lb. cans are now selling at mostly 10c, some 12c per lb. Comb honey in carlot quantities has been selling at \$4.50 for 24-section cases of white clover, \$3.50 per case for amber, and \$3.00 per case for buckwheat. In smaller quantities, materially higher prices are reported.

WEST INDIES.—Supplies much lighter than normal. Heavy shipments made to Holland at 61c per gallon. including cost and freight.

SOUTHEASTERN STATES.—Best grades extracted and comb already sold; some dark EAST CENTRAL STATES .- The heavy demand

SOUTHEASTERN STATES.—Best grades extracted and comb already sold; some dark extracted still on hand. Honey movement is slow at 7-12c per lb. for white and light amber. New crop of cane syrup just put on market is responsible in some sections for light demand. Outlook encouraging. Bees strong in brood, but rather light in stores. Very little clustering so far.

TELEGRAPHIC REPORTS FROM IMPORTANT MARKETS.

BOSTON.—Approximately 50 cases Vermont arrived since last report. Trading shows customary

seasonal dullness with little buying and prices practically unchanged. Comb: Sales to retailers, Vermont, carton stock 20-section cases No. 1 white clover \$6.50-7.00, light low as \$5.00. New York, 24-section cases No. 1 white clover \$6.50-7.00, light low as \$5.00. New York, 24-section cases No. 1 white clover \$6.50-7.00 Extracted: Sales to confectioners and bottlers, Porto Rico, amber per gal. 80-85c. California, white sage mostly 16c per lb. Brokers nominal less than carlot quotations, delivered Boston basis. California, per lb. white sage 12-13c, light amber alfalfa or sage 9-10c, amber alfalfa or sage 7-7½c.

CHICAGC.—Since last report, 2 cars Arizona, 2,000 lbs. Minnesota and 4,000 lbs. Colorado arrived. Stock moving well from brokers and jobers to bottlers and confectionery manufacturers but sales to retailers very slow. Market steady. Extracted: Per lb. sales to bottlers and candy manufacturers, Colorado and Anionesota, 24-section cases No. 1 clover \$5.75-6.00; light weight, leaky, and off color stock low as \$4.50. Beeswax: Receipts moderate. Demand and movement just fair, market steady. Sales to wholesale druggists, harnessmakers and ship supply houses per lb. Oklahoma, Missouri and Colorado, light 30-32c, dark 26-28c. Central American, best grades light, around 24c.

CINCINNATI.—Since last report, 1 car Wyoming arrived.

MINNEAPOLIS.—Since last report, 1 car Wis-

ing arrived.

MINNEAPOLIS.—Since last report, 1 car Wis-MINNEAPOLIS.—Since last report, 1 car Wissensinia rrived. Demand and movement light, market steady. Comb: Supplies liberal. Sales direct to retailers, 24-section cases, Colorado, Idaho and Utah, affalfa and sweet clover mixed No. 1, \$6.50, few \$7.00. Minnesotas and Wisconsin, No. 1, \$6.50. Extracted: Sales direct to retailers, confectioners and bakers, Colorados and Utahs, alfalfas and sweet clover mixed, white 13-15c per lb.

NEW YORK .- Domestic receipts moderate, eign receipts limited. Supplies moderate. Demand limited, market dull. Extracted: Spot sales to joblimited, market dull. Exfracted: Spot sales to jobers, wholesalers, confectioners, bakers and bottlers, domestic, per lb. California, light amber alfalfa 8-9c, light amber sage 9-10c, few 11c; white sage 10½-12c, white orange blossom 12-13c, few 14c. New York, white clover 9-10c, buckwheat 7-8c. West Indian, refined 65-70c per gal. Comb: Few sales, New York and Western, 24-section cases white and light amber clover, best \$7.00-8.00, fairs \$6.00-7.00, buckwheat \$4.00-5.00. Beeswax: Foreign receipts moderate. Supplies moderate. Demand limited market steada. Snot sales to wholesalers manceipts moderate. Stited, market steadq. tied, market steadq. Spot sales to wholesalers, manufacturers and drug trade, South American and West Indian, crude light, best 21-23c, poorer low as 18c, dark mostly 15c. African, dark, 13½-15c.

PHILADELPHIA .- Since last report, 3,000 lbs. PHILADELPHIA.—Since last report, 3,000 lbs. Porto Rico arrived. Demand very slow, market slightly weaker, with very few sales. Extracted: Sales to jobbers and bakers, Porto Rico, light amber various flavors 74c per gal. No other sales reported. Beeswax: Supplies light, but sufficient to meet demand. Very little trading, no change in prices. Sales to manufacturers, per lb. crude, medium Chilean 22c, Brazilian 21c, African, dark 14-15c 14-15c.

H. C. TAYLOR, Chief of Bureau of Markets.

### From Producers' Associations.

While the price of honey remains the same, there is a somewhat less demand, caused, it is supposed, by the Christmas season. Bulk comb honey is practically off the market, and only moderate supplies of extracted are available. The holiday supplies of extracted are available. The holiday trade has caused an increase in parcel post packages of extracted honey and section comb. Inquiries from jobbers indicate the demand for honey is yet strong. Producers are yet receiving 8 to 9 cents for extracted 60-pound basis and 12 to 14 cents for bulk comb. Pages and honey parts are for for extracted 50-bound basis and 12 to 14 cents for bulk comb. Bees and honey plants are in fine shape generally. In a few localities where, on account of drought, no fall flow occurred, feeding and uniting are the order of the day.

Texas Honey Producers' Ass'n.

San Antonio, Tex.

E. G. LeStourgeon.

The demand for extracted honey in carload lots is quite satisfactory, and it does look now that good white table stock would be used up before a new

crop comes on to the market. Comb honey is mov-

ing somewhat slower.

The Colorado Honey Producers' Ass'n. Denver, Colo., Dec. 6. F. Rauchfuss, Sec.

### Special Foreign Quotation.

CUBA.—Today's prices in Cuba are: Honey, 42 cents a gallon; wax, 20 cents a pound.

Matanzas, Cuba.

A. Marzol.

### The Opinions of Honey Producers Themselves as Reported to Gleanings in Bee Culture.

Early in December we sent to actual honey producers and some associations the following ques-

ducers and some associations the following questions:

1. What portion of the 1921 honey crop is still in the hands of producers in your locality? Give answer in per cent.

2. What price are producers receiving for honey at their station when sold to large buyers? (a) Comb honey? (b) Extracted honey?

3. What are prices to retailers in small lots? (a) Comb honey fancy or No. 1 per case? (b) Ex-

Comb honey, fancy or No. 1 per case? (b) Ex-

Airline Honey Quotations.

The A. I. Root Company, beginning with the February number of Gleanings in Bee Culture. will quote its prices for honey as it finds its need demands in packing the Airline brands. These quotations are not made this month because of the uncompleted work resulting from a reorganization of the Airline department of our company.

H. H. ROOT,
General Manager, The A. I. Root Co.

tracted honey in five-pound pails or other retail packages?

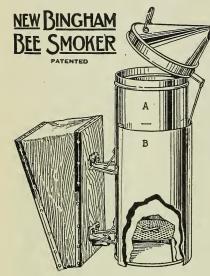
4. How is honey now moving on the market in your locality? Give answer in one word as slow, fair or rapid.

5. How much of the 1921 crop of honey is being sold locally this season in your locality? answer in per cent.

The answers as returned by our corps of honey and bee reporters are as follows:

,	Crop	In large lots.	To Retailers.	Move- Sold
States.	Reported by Unsold.	$Comb.\ Extracted.$	$Comb.\ Extracted.$	ment. Locally.
Alabama.	J. M. Cutts 40	\$.08	\$ .50	.Slow90
Alabama.	J. C. Dickman 25		1.00.,	.Fair90
Arkansas.	J. Johnson 25		.\$6.00 1.75	
British Colum. California.	W. J. Sheppard 15 L. L. Andrews	19	1 00	.Fair10
California.	L. L. Andrews 20 M. A. Sayler 20	\$3.0008	. 3.6075	.Fair50
California.	M. H. Mendleson 0		. 6.50	.Fair 5
Colorado.	J.A. Green 5	4.6008	. 4.8065	.Fair 5
Colorado.	B. W. Hopper 0	5.0009	. 6.0080	.Slow10
Connecticut.	A. W. Yates 40	6.0015	. 8.00 <b>1</b> .00	.Slow100
Florida.	H. Hewitt 10	10		.Fair90
Florida.	W. Lamkin 20	08		
Florida. Georgia.	C. C. Cook	3.6010	. 4.8075 	.Fair75 .Slow85
Illinois.	J. J. Wilder 65 A. L. Kildow 30	5.2512	6.00	.Fair10
Illinois.	C. F. Bender 0	0.2012	6 50	.Slow90
Indiana.	T. C. Johnson 5		6.00 1.00	.Fair100
Indiana.	Jay Smith 10		1 . 35	.Fair75
Indiana.	E. S. Miller 45		. 6.00 <b>1</b> .00	.Fair100
Iowa.	E. G. Brown 25	11	. 6.00 <b>.</b> 90 <b></b>	. Rapid 25
Iowa.	F. Coverdale 0	,,,		.Fair 0
Iowa.	W. S. Pangburn 50	14		.Slow30
Kansas. Kansas.	J. A. Nininger 0 C. D. Mize 25		. 6.0075 . 6.7575	
Louisiana.	C. D. Mize	6 00 08	. 6.7575 . 6.0050	.Fair75
Maine.	O. B. Griffin	6.75	. 7.20	
Maryland.	S. J. Crocker, Jr		5.25 1.00	.Fair75
Massachusetts.	O. M. Smith			.Slow100
Michigan.	O. M. Smith	08	60	. Slow 12
Michigan.	F. Markham 10		. 6.0085	.Fair90
Michigan.	E. D. Townsend 20	13	1.25	.Rapid10
Michigan.	I. D. Bartlett 12 R. B. Willson 40	4 55		Fair75
Mississippi. Missouri.	R. B. Willson 40 J. W. Romberger 0	6.7514	. 5. <b>7</b> 595	.Fair50 .Slow100
Montana.	R. A. Bray 30	5 50 10	. 6.0080	.Fair25
Nevada.	I. D. A. Pringo			Fair 100
New Jersey.	E. G. Carr. 20 Adams & Myers 20 F. W. Lesser 2		6.5080	.Fair10
New York.	Adams & Myers 20		. 6.50 1.00	.Fair90
New York.	F. W. Lesser 2	5.0010	. 6.00 1.00	.Fair 5
New York.	G. Howe			
North Carolina. North Carolina.				.Slow100
Ohio,	W. J. Martin 10 E. G. Baldwin 40	4.75 07	8.40. 1.25 6.7590	.Slow100 .Fair40
Ohio.	R. D. Hiatt		. 6.00 1.15	.Fair100
Ohio.	J. F. Moore 10			
Oklahoma.	J. Heueisen 0		1 . 25	.Fair100
Oklahoma.	C. F. Stiles 0			.Fair100
Oregon.	E. J. Ladd 20		. 6.00 1.00	.Fair100
Oregon.	H. A. Scullen 20		. 6.00 1.00	.Fair100
Pennsylvania.	D. C. Gilham 30		$\frac{7.00.1.25}{2}$	.Fair90
Pennsylvania. Pennsylvania.	C. N. Greene			. Rapid 90 . Fair 20
Rhode Island.	A. C. Miller 0	09	1 50	Fair 100
Texas.	J. N. Mayes 5	3.3610		.Rapid40
Texas.	T. A. Bowden 20			.Slow100
Texas.	H. B. Parks 10			.Fair65
Utah.	M. A. Gill 0		. 4.5065	.Fair80
Virginia.	T. C. Asher		1.25	.Fair75
Washington.	G. W. York 50	5.5011	. 7.2095	
Washington. West Virginia.	G. W. B. Saxon 75 W. C. Griffith 3		 . 8.50 1.25	. Slow
Wisconsin.	W. C. Griffith 3 N. E. France 10	8.0015	. 8.50 1.25 . 6.0075	
Wisconsin.	E. Hassinger Jr 5	<b> </b>		.Rapid90
Wisconsin.	G. Dittmer 75	12		.Slow50
Wisconsin.	H. F. Wilson 7	6.8513	7.0095	.Rapid95
	· · · · · · · · · · · · · · · · · · ·			2

## Bingham's Big Smoke Smoker



Wins Contest at New York State Beekeepers' July Meeting.

Gilbertsville, N. Y., Oct. 3rd, 1921.

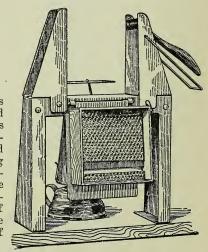
A. G. Woodman Co.:

Last winter I bought a copper Big Smoke Smoker with shield of you and in July took the same to the Chenango County beekeepers' picnic and entered the Smoker contest. There were nine contestants and the Big Smoke won the prize, which was a fine queen bee. Needless to say, I was very proud of the victory. They gave us one minute, and at the expiration of thirty-five minutes the Big Smoke was the only one burning. They called it "Steam Boiler." However, it won and thought I would inform you. C. F. Bushnell.

The contestants were allowed to use any fuel they desired and as much or as little of it as thought advisable. The contestants were given one minute in which to light their smokers, then let set for thirty minutes. At the end of this period, the one that smoked best in thirty seconds won the prize.

## Buy Woodman Section Fixer

One of our men, with the Section Fixer, puts up 500 sections with top starters, in one hour and thirty minutes, 500 sections set up with top starters in ninety minutes. This includes the labor of cutting foundation, getting sections and supers and placing the sections into the supers and carrying them away. A complete job. This is nothing unusual, but his regular speed. You can do the same if you have the push after you become accustomed to the work. There is no breakage of sections. It will pay you to secure one of these machines for this work. It is the best thing of the kind on the market.



## Special Sale on Honey Packages

Friction-top Pails in the 5-pound at \$7.00 per crate of 100; \$13.00 for crates of 203; the 10-pound size at \$11.30 for crates of 113. Special prices on 60-pound cans, onegallon square cans, and other sizes.

A. G. WOODMAN CO., Grand Rapids, Michigan

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## ENS Package Bees and Nuclei

Have a special offer to Beekeepers' Associations or groups of beekeepers that can use a car of bees at a time, 800 to 1000 packages. We are prepared to load 2 cars a week after April 5th, 1922. Free ticket to the party coming down to go back with the car or I can furnish a man. This is the best way; no transferring from one car to another; bees go through in 3 to 4 days. Also special attention given to small orders.

### 1922 PRICES. BOOKING ORDERS NOW. SAFE ARRIVAL GUARANTEED.

1-pound package\$2.25	each; 25	or more\$	2.15 each
2-pound package 3.75	each; 25	or more	3.60 each
3-pound package 5.25			
2-comb nuclei	5 each; 3-c	omb nuclei	5.25 each
( 4 3 7	0	. 7 \	

### (Add price of queen wanted.)

т.	Ontest	eu gueen	prior cach,	20 01 more	pr.ou each
1	Select	Untested	1.70 each;	25 or more	1.50 each
1	Tested		2.25 each;	25 or more	2.00 each
1	Select	Tested	2.65 each:	25 or more	2.25 each

One-fifth down with order, balance just before shipping; or 4% discount for full remittance for December, and 3% for January orders.

THE NUECES COUNTY APIARIES, CALALLEN, TEXAS E. B. AULT, PROP.

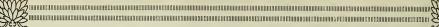
## 17,203 Italian Queens

for 1921 and orders for many more turned down. We do not tell you this in a boasting way, but rather to show our customers what they have helped us to accomplish. If we did not have really SUPERIOR ITALIAN STOCK could we have sold that many and had so few complaints, or could we have built our queen business from nothing to that in eight years, if we had not given value received for our customer's money?

## Italian Bees

of the same SUPERIOR STOCK in Packages, Nuclei and Full Colonies. We have 2,000 colonies headed with young queens. Can give you good stock at attractive prices. Let us quote you on your needs. Special prices on three-frame nuclei. Special attention to car-load shipments.

THE STOVER APIARIES, MAYHEW, MISS.











### **EDITORIAL**

A PLAN for disinfecting the hives when treating for American foul brood, used by

F. R. Buchanan, an extensive honey producer of Los Angeles



Disinfecting Hives Without Charring the Wood.

County, Calif., enables him to scorch out the hives without danger of charring the wood. He first wets the inner surface of the hives with water, then piles several hive-bodies in a pile, applies gasoline to the inside of the pile and ignites it. By this plan a high degree of heat is applied to the surface of the wood, but the water prevents any charring.



FROM ancient times down to the present various writers have recommended honey



The Use of Honey as a Cosmetic.

as a beautifier either when used as a food or as a cosmetic. Certain

manufacturers of cosmetics are now using the word honey in their advertisements and on their labels to conjure with. Now comes Grace Margaret Gould in her "Beauty Talks" in the November issue of the Woman's Home Companion, recommending honey as a cosmetic in glowing terms as follows:

Honey, to bring the flower-freshness back to your face. Mustn't forget that honey is the product of flowers, and if properly used will give the pink and white freshness of youth to the skin that is old and tired-looking. Tell my Good Looks friends about the honey mask. Following is the recipe: Mix a tablespoonful of strained honey with a tablespoonful of fine white flour. Add a few drops of rose water, just enough to make the honey paste smooth and as liquid as you need it. Spread carefully over the face. Let it stay on half an hour and then wash off with cold water. Try the mask twice a week for a month. Result—youth back in your face.



IN THE December issue of the Country Gentleman there appears an article by J.



A Knock Is a Boost. Sidney Gates, entitled "Is Hubam a Failure?" While he does not answer this question in

the affirmative in so many words, he introduces negative testimony from experiment stations which, naturally enough at this time, are conservative. We could not expect them to give their final conclusions. He apparently tried to find all the fault he

could without introducing any testimony favorable to Hubam from sources he might have drawn on.

Moreover, he goes out of his way to ridicule Professor Hughes for the manner in which he introduced the seed of this plant. He does not bring out the point that Professor Hughes did not get a single dollar on the sales of the seed and never has. He gave away the seed in order that all might test it. Notwithstanding there are hundreds if not thousands of persons who have tested Hubam, Mr. Gates makes no allusion to any of these. He apparently ignores the fact that the annual sweet clover will produce a crop in a third of the time of the biennial; that it has been tested for hay, silage, and as a turn-under crop. While the roots do not live over, the seed, if not harvested, will lie on the ground and produce a large volunteer crop the following season.

Had we not seen what Hubam is doing all over the South, North and West we should feel less enthusiastic over it. Apparently Mr. Gates has not seen the immense fields of Hubam in its native state, Alabama; nor large fields of it in Ohio, Michigan, the Dakotas and elsewhere where it is grown. He has never met Professor Hughes, apparently; for if he had he would have known that he is not an exploiter nor one who is in the habit of making statements that he can not substantiate.

It is not to be wondered at that a good thing should have its detractors. They always do. A knock is a boost.



At the two short courses recently held in Colorado there were conflicting opinions ex-



Winter Protection in Colorado.

pressed by different beekeepers present as to the value of win-

ter protection for bees. It has long been considered unprofitable to pack bees for winter in Colorado, as well as other parts of the arid region of the West. This is apparently the opinion of most of the extensive honey producers in Colorado, but a few men reported a remarkable increase in the yield per colony when winter protection is provided. In one case the figures showed that colonies which had been packed well dur-

ing the winter yielded an average of seven supers of honey per colony, while those left unpacked yielded an average of but one super each. No doubt the difference of opinion among beekeepers of the Intermountain Region as to the value of winter protection is a result of differences of altitude and exposure to winds, but probably the chief reason for the prevalent practice of wintering in single-walled hives lies in the fact that the main honey flow comes so late that even weak colonies have time to build up for it in the spring. Some of those who are packing for winter in Colorado practice dividing these strong colonies in May, which enables them to have two strong colonies ready for the honey flow which usually begins the latter part of June or the first of July. If no increase is wanted the colonies are reunited at the close of the main honey flow, which gives strong colonies for winter and saves considerable fall brood-rearing.



REPORTS from some of the meetings of beekeepers recently held in different parts of the country



Are Beekeepers Losing Interest in Honey Production?

indicate a smaller attendance than usual. as well as a

lack of interest in some cases. This is to be expected after a few years of abnormally high prices for honey, and no doubt many of those who plunged headlong into honey production when prices were high will drop out when prices are no longer so alluring. Honey production must now pass out of the highly speculative, "get rich quick" class and go back among the more conservative industries. Perhaps the sooner this is accomplished, the better.

But many of the older beekeepers are finding it difficult to readjust themselves to the new conditions; and, strange as it may seem, just when beekeepers are most in need of the benefits that should come from their meetings in helping them to reduce their production costs and increase their yields, many are failing to take advantage of the winter meetings. The Editor is convinced that now is the time to push ahead in hon-ey production instead of hanging back. The greatly increased consumption of honey thus far this season, in spite of adverse industrial conditions, certainly looks good for the future. The potential market for honey is no doubt greater than any of us have ever dreamed it could be. Those who stick to honey production now, get away from the wasteful methods in production which, in spite of the waste, yielded a profit when prices were high, and pass by no opportunity to learn something that may help to increase their average yield per colony, are the ones who will have their buckets right side up when more prosperous times come. THESE editorials are written in southern California where the Editor is assisting in



The Wintering ern California.

a short course in beekeeping given Problem in South- at Los Angeles by the Extension Division of the

University of California and the U.S. Department of Agriculture. At this time (Dec. 10) normal colonies of bees of normal strength for this season are broodless and about as quiescent as they ever become in this region except during periods of rainy weather.

Apparently the bees try to take a rest here during the winter as they do in the North, but during the day the hive is warmed up by the bright sunshine and, if the bees have formed a cluster during the night, it is broken during the day. The bees usually fly freely nearly every day except

during rainy weather.

Willows are already beginning to put out new growth where they have sufficient water supply, and soon the bees will be gathering pollen from this source. Some varieties of the eucalyptus are now in bloom, and the bees are beginning to obtain nectar from this source. The warm days and cool nights, together with some early pollen and nectar, will soon stimulate in all normal colonies brood-rearing, which is then continued thru the remainder of the winter, tho it is not carried on extensively. Usually brood can be found in some of the colonies of any apiary in parts of southern California every month in the year. Thus while there is a more or less definite broodless period here in the fall or early winter, this period is only a few weeks long instead of a few months as in the North.

One outstanding feature of winter broodrearing here is that, as a rule, it is the strongest colonies that remain broodless the longest. Weak colonies or colonies made up largely of old bees are the ones that can be expected to rear brood at this time when the strong colonies are broodless. This longer period of no brood-rearing should give to the strong colonies a great advantage.

With so much winter activity the colonies often become badly depleted during the winter, dwindling down to mere nuclei before they begin to gain in the spring. Surprising as it may seem to northern beekeepers, the problem of having the colonies rousing strong at the beginning of the honey flow from orange blossoms is apparently more difficult than that of the northern beekeeper in having his colonies ready for the honey flow from clover. In other words, excessive winter flight, together with winter broodrearing, is more difficult to overcome than winter activity because of cold weather or poor stores during confinement in the North.

The most important steps in the preparation for winter here, to prevent the depletion of the colonies by excessive winter activity, are to have vigorous young queens in the late summer and leave an abundance of

honey-more than enough.

The temptation to take away too much honey is even greater here than in the North, because the beekeeper expects his bees to gather a little during the winter. Those beekeepers who have learned to "wrap their bees in lots of honey" for winter, as one man expressed it, are the ones who are securing crops of orange blossom honey; while those who expect their bees to rustle for a living after extracting time and during the winter, as too many still do, count on obtaining but little surplus from orange blossoms, the bees building up on the orange honey flow ready to be moved to the sage which comes on later. Many of the most progressive beekeepers here now winter their colonies in two stories, with the upper story two-thirds full of honey.



BEEKEEPERS have long associated wet and mouldy combs with poor wintering. In



Condensation of Moisture in Hives in Winter. fact, the condensation of moisture within the hive is often looked upon as

the cause of poor wintering, and many methods have been worked out for the removal of moisture from the hive in winter in order to bring about better wintering.

Before the invention of movable-frame hives some beekeepers had learned to turn the box hives upside down in cellar-wintering in order to permit the moisture more readily to escape from the hives. Even today some who winter their bees in the cellar raise the hive cover slightly or remove it entirely and spread a piece of cloth over the hive for winter to keep the interior of the hives dry. In outdoor wintering some provide for the escape of moisture-laden air thru openings in the upper part of the hive or thru a porous covering such as burlap, canvas or pieces of old carpet.

These methods, of course, are effective in removing the moisture; but the same draft of air that carries out the moisture also carries with it the precious heat which the bees, having no other means of warming their hives in winter, are compelled to generate by muscular activity, which, in turn, creates more moisture. In order to prevent much upward draft of air and at the same time keep the hives dry, packing material is usually placed above when upward ventilation is provided for by using burlap or cloth over the frames instead of the regu-

lar hive cover.

More or less moisture is being given off by a colony of bees all of the time, the amount given off being directly in proportion to the amount of honey they consume, which, in turn, depends upon the amount of activity of the bees. During the summer when the bees are most active they give off

large quantities of water vapor, but in the winter when they are broodless and quiescent they give off but little moisture, tho it is only during cool or cold weather that any of this moisture condenses in the hives. As long as the inner walls of the hive remain warm enough there is, of course, no condensation of moisture within the hives. In this case the moisture passes out the entrance in the form of water vapor. But as soon as the walls of the hive or the combs that are outside the cluster are chilled below the dew point, which varies according to the amount of moisture being given off by the bees, condensation of moisture will take place upon these cold surfaces. If the moisture given off by the bees is decreased, the inner walls of the hive must become colder before condensation takes place; and if the moisture inside the hive is increased, condensation takes place at a higher temperature of the hive walls. When colonies of bees become quite active during the winter because they are using poor stores while confined without a cleansing flight or because the hives are too cold, they give off more moisture than when they are quiet and wintering well. If any colonies begin broodrearing in winter, they will, of course, give off more moisture than if they remain broodless. In such cases there will be wet and mouldy combs if the hive becomes cold enough on the inside to cause condensation. Thus it is the active colonies that become wet , while the quiet ones may remain dry. To remove the moisture by excessive ventilation in such cases is to remove a symptom while the cause remains.

No doubt wet and mouldy combs are injurious to the colony, but to a large extent at least they should be looked upon as a result of poor wintering instead of the cause. Condensation of moisture within the hives in the cellar usually indicates either that the cellar temperature is too low or that the bees are using poor winter stores, which cause undue activity. In outdoor wintering it is more difficult to keep the walls of the hive warm enough to prevent condensation within the hive during severe weather, but condensation is greatly reduced by providing good winter stores and giving ample winter protection.

In the far North where the inner walls of the hives may get too cold even when well packed, some beekeepers provide for a slight amount of upward ventilation thru the packing at the top, but this is not necessary, except where winters are quite severe, when the hives are well packed. Sealed covers are usually preferable for cellar-wintering, if the stores are good and the temperature of the cellar is kept high enough. Sealed covers can also be used for outdoor wintering if the stores are good and the hives well protected, except in the far North where the packing may not keep the inner hive walls above the dew point.

THE free in-

beekeepers, which has been

such an impor-

tant factor in the development

of the industry,

terchange of

ideas among

### SOME LOCALITY DIFFERENCES

Importance of Fitting the Management to Conditions Peculiar to the Locality and the Season

By Geo. S. Demuth

way in every locality, if the total environment could be made the same.

The factors which make up the locality are (1) the various combinations of

weather conditions and (2) the honey plants of the region. Almost endless combinations can be made up from these. The differences in management necessary for different localities are largely brought about by the time of the occurrence of the main honey flow in relation to the time of the natural great expansion in brood-rearing activities in the spring. The length of time between the natural occurrence of these two things gives several types of localities.

In the white and alsike clover region of the northeastern portion of the United States and the adjacent portion of Canada, the natural heavy brood-rearing of spring occurs just before the beginning of the main honey flow from clover, so that under good management the colonies are ready for the short honey flow with a great horde of young workers. The citrus-fruit region in southern California is very much like the clover region of the far North, so far as management is concerned, in spite of the great difference in climate, for in each region the main honey flow is short and rapid and occurs at about the time the colonies have reached their peak in spring brood-rearing.

In the midst of the buckwheat region of southern New York and northern Pennsylvania where there is but little if any clover, the bees plunge ahead with their brood-rearing in May (provided they have wintered well and have plenty of food) as the they were getting ready for the honey flow from clover in June, althe here the main honey flow does not come in June but comes in August. The splendid force of workers reared in May, which become the harvest hands in the clover region, are of but little if any value for the honey flow from buckwheat. In fact, many of them may already have died of old age before buckwheat begins to bloom; and, if still alive, they are too old to help much in gathering a crop of buckwheat honey.

The problem of building up for the honey flow in the buckwheat region is therefore quite different from that of the clover region. The same thing is true, to a less degree, in the irrigated regions of the West where alfalfa is the chief source of nectar. In some portions of this region the bees build up early, if well managed, just as they do in the clover region and the citrus region; but the main honey flow does not come until a month or six weeks later, at which time the colonies may not be in as good con-

revealed, years ago, many differences of opinion among careful observers in different parts of the country. Many of these differences were of course due to differences in the localities where the observations were made; so, early in the history of beekeeping in this country, the influence of locality upon the bavior of the bees, as well as upon the management necessary for best results, was generally recognized. In those days beekeepers in their conventions and thru the bee journals, finding that they could not agree on many important beekeeping questions, usually explained their differences by

the differences in the localities. But beekeepers are not inclined to agree on many questions of management when located in similar regions, and even in the same region. They would not be living up to the traditions of their craft, if they were inclined to agree fully when discussing many of the questions of management that naturally come up whenever two or more real beekeepers meet either in person or thru their literature. In the earlier days many differences of opinion were explained by "locality," which really were the result of faulty observations or personal prejudices. Out of this there has come a growing tendency for beekeepers of one region to reject the experience of beekeepers in other regions as not being applicable to their own, instead of searching out the differences in the environment which brings about the apparent difference in the behavior of the bees in the different regions. This unfortunate tendency, to a certain extent, has hindered development, for it is much easier to blame the "locality" than to search out the real reasons for the differences. For this reason during recent years the term "locality" has been held in ill repute, many writers avoiding its use; and when it is used in conventions to explain away differences of opinion, it often causes considerable merri-

To avoid the use of this term in our literature may be as great a mistake as its former abuse, which led to its degradation. Those who have been tolerant enough with the other fellow's views to go to the trouble of analyzing the factors in the environment in each case, have learned much about the way honeybees respond to different factors in their environment and the differences in management indicated for the various conditions. But they have also learned that bees can be expected to behave in the same

dition to gather a large amount of surplus honey as they were earlier. Here again the beekeeper is confronted with the serious problem of keeping up sufficient brood-rearing to hold his colonies strong until the beginning of the main honey flow, the problem being similar to that of the buckwheat region.

In some localities in the South the bees regularly build up to great strength early in the spring where there is no honey flow yielding surplus honey until six weeks or two months after the bees are ready for it. If left alone during this interval, these colonies, which were strong too early for the honey flow, may become almost worthless by the time the main honey flow finally ar-

rives.

In other localities in the South there may be several honey flows of major importance during the season, with a period of dearth of nectar between. If the first of such a series of honey flows occurs just after the heavy brood-rearing period of spring, the bees, if well managed, should be strong enough to gather a crop of surplus honey during this honey flow; but they often fail to maintain their strength to a sufficient degree for the next honey flow, especially if Italians, and the first honey flow tapers off at its close.

## Why Beekeepers Disagree as to Best Management.

Thus while the beekeeper, in a locality where the main honey flow comes early, emphasizes the importance of good wintering and conditions favorable for rapid building up to great strength in the spring, beekeepers in the alfalfa region and in the buckwheat region are not so much concerned about better wintering or better care in the spring, for they have a longer time for the colonies to build up before the main honey flow. Therefore the beekeepers in these two types of regions agree to disagree as to the value of winter protection and spring protection for their colonies.

The alert beekeeper in the buckwheat region or the alfalfa region may discover that by better wintering and better spring management he is able to divide his colonies before they have had a chance to reach the peak of brood-rearing in the spring, thus making two colonies which build up in time for his main honey flow, each of the two colonies, at the beginning of the main honey flow, being as strong as, if not stronger than the single original colony would have been if left undivided. When such a beekeeper writes up his discovery for a bee journal or describes his management at a beekeepers' convention a loud protest is due from the beekeeper from the clover region or the citrus-fruit region, who finds it hard enough to get his colonies up to full strength in time for his main honey flow. He may advise uniting colonies previous to the main. honey flow, and he usually insists that making increase previous to the honey flow is fundamentally wrong and should not be done if surplus honey is wanted.

The beekeeper in the South who finds his colonies booming strong two months before the main honey flow, may discover that he can sell package bees from his colonies early in the spring and by doing so actually bring his colonies to the honey flow two months later, in better condition than if the package bees had not been taken away, for they then come up to the honey flow still on the upgrade instead of on the decline. When he announces his discovery, experienced beekeepers in localities of the clover and citrusfruit type are ready to register a protest against such a procedure, and beginners in the latter type of location may take the advice home and ruin some of their colonies by trying it in a location where it can not be done and secure surplus honey at the same time.

The beekeeper in a locality having a series of honey flows of major importance, with intervals of dearth between, may discover that Caucasian bees rear brood thru the period of dearth better than Italians. If so, he may be expected to recommend this race as being far superior to Italians, while beekeepers in other regions prefer Italians.

Influence of Locality Upon Swarming.

Some years ago a beekeeper in Texas startled northern beekeepers by announcing that in his locality swarming may always be expected to cease suddenly and completely when the main honey flow begins. Immediately beekeepers in other regions protested, insisting that such a procedure on the part of the bees is quite unnatural, and pointing out that in their localities the swarming season may be expected to begin when the main honey flow begins. Thus beekeepers in the northern portion of the clover region know positively that it is bee nature to prepare to swarm during the honey flow from clover, while in some southern locations the beekeepers are just as certain that it is natural for the bees to give up swarming when the main honey flow begins in earnest. They can only agree to disagree, each perhaps doubting the correctness of the other's observations, or blaming the dif-ference upon "locality" by which the very nature of the honeybee is apparently changed.

But by looking deeper the explanation is not to be found in a change in the instincts of the bees as to swarming, but in the greater length of time between the extensive broodrearing of spring and the beginning of the honey flow in some southern localities than in the northern localities. The greater proportion of field bees in the southern locality results in the brood-chamber being nearly depleted of its workers during the heat of the day when the honey flow begins, because they go to the fields; while in the far

for myself. The result was that

in August, 1890,

I made a trip across the State

of New York on

one of the first

bicycles

safety

North, where the honey flow usually comes when the bees have the most brood, the brood-chambers are crowded with young and emerging bees when the honey flow begins.

## Character of Honey Flow Determines Number of Supers Needed.

The honey flow in one location may be short and rapid, as in the clover region and the citrus-fruit region, while in another it may be long and slow, thus making a great difference in the number of supers needed to harvest the crop and have the honey well ripened. In dry climates where the honey flow is long and slow, many beekeepers insist that one extracting super is enough for each colony, since they can extract several times during the honey flow and at the same time have the honey well ripened; while the beekeeper in a moist climate, having a short and rapid honey flow, insists that it is necessary to have enough supers to hold the entire crop, and advises extracting some time after the close of the honey flow. In each case the other fellow is always wrong.

Examples of this kind could be multiplied almost indefinitely, because the number of possible combinations of weather conditions and honey flows is almost without limit. It is important that beekeepers in any particular type of locality learn the reasons for the other fellow's management, instead of con-demning it without study because in their own locality the variation from season to season varies their problems, sometimes making the methods that have been worked out in an entirely different locality the best to use in their own locality on account of some peculiarity of the season. In other words, he who fails to recognize and study the problem of locality and adjust his management to fit changed conditions, will not be able to secure the best results possible in his locality every season. Would it not be well for us to polish away the smirch from the old term "locality" and give it another trial as a beekeeping term?



I ALWAYS feel sorry for the poor fool who can tolerate closed-end frames with their bee glue and bee-smashing." I presume I have heard

## HETHERINGTON - QUINBY HIVE

Some Reminiscences of the Good Old Days When Modern Beekeeping Was in the Making

By E. R. Root

Root that was ever made. At that time a man traveling on a "safety" was more of a novelty than a man in an airplane going overhead today—so much so, in fact that the people in the country towns flocked out in great crowds to see that man skip-

that remark hundreds of times. It is seldom, however, that the user of such frames is sorry for himself, and he would resent the insinuation that he belongs to the class commonly called "fools." I must confess that I myself, away back in the 90's, shared somewhat the feeling voiced above, until a certain bicycle trip caused me to modify my views somewhat-not because I advocated the closed-end frames, but because I saw that such frames could be handled, and were handled, by some of the most extensive beekeepers in the world. In the early days of California beekeeping J. S. Harbison could not have been persuaded to handle anything else than his own particular type of closed end frame. The late Captain J. E. Hetherington at one time had 3,000 colonies on Quinby closed-end frames; and today, if I am not very much mistaken, P. H. Elwood has over 1,000 colonies on such frames.

I began editorial work on this journal in 1885. I read various discussions concerning the various merits of closed-end and open-end unspaced Langstroth frames. Knowing that some of the largest beekeepers in New York were users of the Quinby closed-end frame as modified by Hetherington, I had a great desire to see and know



One of the original Hetherington-Quinby hives of 30 years ago as found in the apiary of C. F. M. Stone, Lamanda Park, Cal. This hive has all but gone out of use; but, says Mr. Stone, for breeding bees and the production of comb honey it is one of the best ever devised. Altho the frames are closed-end it is not a bee-smasher; and those who are still using it in New York swear by it.

ping thru the country on a pair of wagon wheels. Even the dogs paid their respects

by grabbing at my ankles.

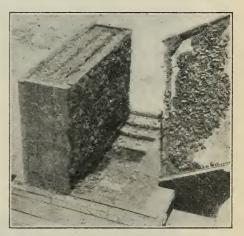
On this same bicycle trip I discovered the Hoffman frame—that is, a sort of cross between the old-style Langstroth and the closed-end Quinby. That frame as now modified by me has lived to become almost universal. This apparent egotism on my part may be softened by the remark that there are some who think it the worst frame ever devised. I found also on that trip the closed-end Quinby frame and hive. ran across these at the home of P. H. Elwood, then of Starkville, up among the hills of Herkimer County. I spent several days with him, and at the conclusion of my visit I became convinced that these frames could not only be handled rapidly, but that, too, without the nuisance of bee glue or of beesmashing. In fact, I saw Mr. Elwood actually go thru dozens of his hives rapidly without smashing a bee—simple as could be if one only knew how. At the time, in a series of articles in this journal I described the Hetherington-Quinby hive. Of course it will be understood that Captain J. E. Hetherington, who then had about 3,000 of them, had slightly modified the original Quinby hive and frame so that it was more workable for the commercial beekeeper.

It should be understood that the Quinby frame proper is not a hanging frame, but a standing frame, resting upon the bottom-board, upon one end of which is fastened a piece of strap iron about 1/8 inch above the floor. Every Quinby frame had at one corner a piece of strap iron hook which engaged the aforesaid piece of strap iron. The purpose of this arrangement was to keep the frames in alignment and to secure them in an upright position upon the bottomboard. Eight or ten of these frames were hooked on to the bottom-board as shown by the illustration, when two wooden panels covered the two exposed sides. A common string was looped around and tied. On top of the whole were placed supers for box honey, for this was primarily a comb-honey Mr. Quinby and Mr. Hetherington were firm believers in warm hives. They therefore had an outer case and a rim that telescoped over the whole. When a second super was put on, another rim was put in place, and an ordinary "cap" telescoped over the whole. This arrangement made a double-walled hive, very warm, and exactly suited for the production of comb honey. The inner wall consisted of closed-end bars, the two side panels, the outer wall of the rim, and cap before mentioned.

The important feature of this hive was the construction of the entrance. The bottom had a large opening which could be contracted during cold weather. This opening connected with a sort of sub-floor so that the bees would enter the hive by going under it—at least, that was the general design used by Mr. Elwood. Others had an opening in the sides which allowed the bees to pass on this sub-floor up thru the hole in the bottom-board of the hive proper.

There are not many, comparatively, who are using closed-end frames in New York; and I am told the main reason is because the Hetherington-Quinby closed-end frame hive is not a regular equipment, and can not be purchased at any beehive factory.

Two years ago while I was visiting C. F. M. Stone of Lamanda Park, Cal., near Pasadena, he showed me one of those old hives that he secured from O. J. Hetherington, a brother of J. E. Hetherington, who, as I said, had at one time some 3,000 colonies on these same closed-end frames, being at that time the largest beekeeper in the world. I considered this old Hetherington-Quinby hive as a real souvenir and a curiosity. And yet it was something more than a curiosity, because the colonies in this hive were always strong and prosperous. He attributed this to the fact that the frames are closed-end, and that the hive is doublewalled-a combination that is also rare in California. I said to Mr. Stone, "I wish you would open up this hive and let me show thru the camera its construction and just how you handle it."



Quinby closed-end frame. This shows how the broodnest can be split up or dissected for examination.

He had been told by O. J. Hetherington how to manipulate it, and his mode of procedure was precisely that of P. H. Elwood, and presumably that of the renowned and brilliant Captain Hetherington himself. First, Mr. Stone, as shown by Fig. 1, lifted the cap that covered the hive proper. After lifting the lower frame that surrounds the bottom of the hive and the super he proceeded to loosen the string that held the panels around the closed-end frames. He then showed, exactly as Elwood had done nearly 30 years before, how these frames

What a change

has occurred in

the short space

of four years,

one can imagine

from the state-

ment of the

American consul

to Mr. Tollafield,

could be separated by means of a common penknife, and how they could be slipped back in place without killing a single bee. This was done by slipping the frames endwise. In fact, that was the only way they could be disengaged, on account of the hooks and piece of strap iron before mentioned. This endwise movement brushes off any bees that may be in the way, and a lot of them become snugly and squarely in

The top-bars of the frames drop down a bee-space where the bottom-bars are raised up the same distance. The objection might arise, when this kind of hive is tiered up, that there would be a double bee-space. This is overcome by the use of a rim or frame that is fitted in between the two stories.

I asked Mr. Stone what he thought of that hive.

"Mighty good hive to winter and spring

bees in. They nearly always have the best colonies."

"Why do you not adopt these exclusive-

ly, then?'''
''First, because I can not buy them anywhere; second, because they are odd-sized; third, they are not well adapted to the production of extracted honey; fourth, they are hardly suitable for out-apiaries where much moving is practiced. But," he continued, "I do believe in the principle of closed-end frames because they are warm; and I do believe in the principle of a double-walled hive, and I believe in the size and shape of the frame for breeding purposes; but it is not a frame for extracting.'

I guess he is right. This last of Mr. Stone's reasons explains to you why this wonderful Hetherington-Quinby hive did not become popular. I should imagine it would be a wonderful hive for the Southland to supply the pound-package trade.



77 HENI came to this country four years ago it was impossible to find any one who would even consider the honeybee as worthy of

c o n sideration from a business standpoint. There had been some interest created here by a beeman from Chile who had given instruction in beekeeping to some classes, but those who installed small apiaries from the information so gathered had finally let them peter out. The only other activity in this line consisted of apiaries on some of the larger coffee plantations owned by Germans. The object of their operators seemed to be centered on economy and the installations were of the worst. In the majority of cases not even extractors were used.

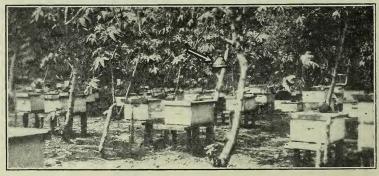
### BEEKEEPING IN FOREIGN LANDS

Honey Industry New but Flourishing in Guatemala Where Good Crops are Assured Every Year

By George Riedel

that in his opinion the honey industry would be the third business of this country within the next five years.

Coming here without capital I began to form partnerships with different plantation owners. The first big modern apiary was formed in combination with Don Arturo Castillo in the plantation "Agua Tibia," and consists of 500 colonies. This was at an altitude of over 5,000 feet, and seemed to me to be too cold during the honey season, which is from October to April. The next year I began establishing apiaries in



Note the bell suspended from a tree (the arrow pointing to it) that is found tral America. The bell is only rung when a swarm takes flight to cause it to A typical Guatemala apiary. in almost all apiaries in Central America. cluster (perhaps).

the so-called coffee zone, which has an altitude of from 3,000 to 4,000 feet. The climate is ideal for bees, and the flora is hard to beat. In this zone, which is in the department of Santa Rosa, can now be found about 16 fine modern apiaries of 500 colonies, 11 of which were formed by me, and a great many others are being started on a smaller scale.

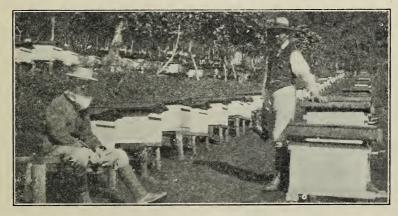
### The Seasons and the Honey Plants.

In this country there are two distinct seasons, called winter and summer by the inhabitants, but in reality they should be called the dry and the wet. The dry season begins about October 20, and that is the time when the beeman must rustle, because the bees begin at once to bring in about five pounds of honey daily, and by the 12th of

color it is a light amber. The second honey flow comes chiefly from a shrub called "Suykani." When this is in flower it perfumes the whole countryside with the most delightful odor, and when I came here it was the general opinion that this was the chief source of honey. There are other trees almost equally good, among which are the Ahuacati, Mango, Zapotillo, Hoja de queso, Bareto, and others; but I should say that all of these combined do not give one-half of that given by the aforementioned sage called "Chinchiquasti."

## Increases 400% and Secures Good Honey Crop.

In May when the rainy season begins, the bees, after having been lying dormant and trying to rob for about a month, again start



Beekeepers in Guatemala place their hives on elevated stands to avoid loss from ants and sudden deluges of tropical rains.

November a good colony is bringing in from ten to fifteen pounds a day. I kept a hive on scales for two seasons and found the results the same for both years. In fact the one feature of the country that cannot be paralleled in any other part of the world is the invariability of the seasons. There is never a drought nor failure. Between the 20th of October and the first of November one can absolutely count on the honey flow to begin. It increases until about November 25, and then gradually slackens until Christmas when it ends; that is to say, the flow from the annual plants ends. About February first another honey flow begins from the biennials and this continues, but not so heavily as the other, until about April 15.

I should say that about 70% of the honey comes from a plant called "Chinchiquasti." It is a true sage, very much like the California purple sage, having a blossom practically the same. The honev is, in my opinion, fully equal to the California white sage honey. It is quite dense and crystallizes in about a month. The flavor is mild and agreeable and does not pall on the taste. In

to thrive. A light honey flow begins, just enough to keep them going; but a great quantity of pollen is brought in so that by June the hives are simply bubbling over with young bees. This is the season that I used for increasing. To give an idea what can be done, I might mention that in July, 1918, in the plantation La Vega, owned by Don Jorge Morales, I increased from 90 to 350 in the months of July, August and September, and obtained an average yield of 165 pounds to the hive from the 350 so made. If one counted, by the so-called spring count method, it would have made an average yield of over 600 pounds to the hive, which I dare say would almost have been a record. Last year, in one of my own apiaries, Los Verdes, I increased from 90 to 600 during the rainy season, but did not get as large a yield, as I had divided a little too much. However, one can count on increasing four times and get a good honey crop too, but one must be on the job every minute because, just before the season starts, we have a month of heavy rain, and if the bees are not fed artificially they will be so weak that they will not be in condition

until the best part of the flow has passed.

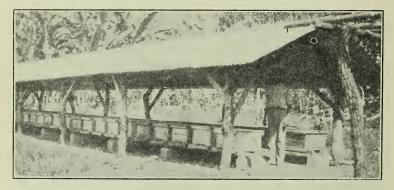
Some Unattractive Features.

From the foregoing it might be inferred that this is a good country for the honey business—and it is. However, I don't want to paint too rosy a picture. I myself have sold out all my interest in this line, and am now developing an enormous cattle and mahogany plantation. I might also mention that three other men who have come down here with the idea of staying have given it Now why? Not because it is not a good bee country; but simply because the conditions in some cases are too difficult to surmount to recompense for the gain. These countries are extremely attractive in many ways and offer many chances for an ambitious man; but before anyone decides to settle here for good he should make a trial; especially if he has a family he should consider the many handicaps. Bad roads, practically no foreigners, a strange language and peculiarities of climate that we are not used to make the life here too difficult for most American families. It is different when one is the owner of a great plantation. In that case he may live like a prince; but, all in all, I would not advise Americans to come here to start in this business. It is true that as a strictly bee proposition I believe there is no place in the United States its equal. No bee diseases, cheap and good labor, ideal climate, a sure crop every season with big results; but when one considers the difficulties of marketing, the reduced price and the fact that one is spending the best years of his life in a strange country, I for one would rather make smaller profits and live in my own country.

I should like to see this business develop and be controlled by Americans, since we have been the ones to start it. I truly think this is the best way to conquer these countries, industrially and commercially, for once we have made ourselves felt in that direction it will not be necessary to resort to the crude methods of military strategy. Guatemala, Cen. America.

[Beekeepers are quite like all mortals and have the usual traits of mankind, one of the most outstanding being that the average beekeeper believes that the other fellow's meadow is the better one. Our foreign mail continually brings to us letters from one country asking for information regarding another. A New Zealander will write desiring to locate in the United States, one from Australia regarding locating in the Argentine, etc.

Beekeeping in Guatemala is of the mushroom variety. Four or five years ago there was no one in the republic keeping bees under modern conditions, or producing honey as a commercial proposition but today there are possibly 50,000 colonies or more in modern equipment. A young American who had been interested in beekeeping in California arrived on the Pacific Coast of Guatemala possibly four years ago with the idea of becoming interested in beekeeping; his capital being very limited indeed prevented him from venturing on any large scale, and the only thing he could do was to make an attempt to interest some of the large progressive owners of coffee plantations or "fincas." Finally a few of the large "finca" owners were induced to put in a few colo-



Castor oil trees or cheaply constructed sheds are frequently used in this land of hot sunshine to supply shade for the hives.

However, in the case of some young men with ambition who know the business, this is not a bad field, and beginning with this they may pass into other opportunities of which there are many. I myself want to see more Americans enter these countries and develop them and bring them under the influences of American ways of doing things.

nies of bees, and the interest in beekeeping and honey production is so strong today that the American Consul at one of the ports of entry stated that if this activity continued to grow in the future as it had grown in the last three years, honey would be in a very few years the third or fourth export of the Republic.—Editor.]

# FROM THE FIELD OF EXPERIENCE

### HONEY BY PARCEL POST

A Simple Method of Packing for the Mails. How to Find the Customers

I sincerely believe that, if pure honey in attractive shape could be brought to the attention of every prospective purchaser, there would never be a supply beyond the demand, and the price would be relatively higher.

I am not an extensive producer and my yearly crop runs from 1,000 to 3,000 pounds, sometimes 3,500. But I believe that I could dispose of quite a large quantity at a big advance over what it would bring me if sold

wholesale.

Some years ago I had printed a lot of circulars six by nine inches. In this circular I inform the prospective customer that I am offering pure honey direct to the consumer, and explain just what extracted honey is and how it is produced. At the time I had my price list printed on the reverse side of the sheet.

That was before or about the beginning of the war, and when all commodities went up in price my list was much too low. I now regulate my prices to conform somewhat to the general wholesale price of honey and change them as the price goes up or down. I make the price just about double the wholesale price, and the purchaser pays for

the container and the postage.

I sell mostly in five and ten pound fric-tion-top pails and have orders for many more of the ten-pound than of the five-pound pails. I prepare it for parcel post shipment in the following manner: I cut a disk out of the strawboard corrugated material so much used at this time for boxes. This can be picked up at your nearest grocery store. The disk is of the same size as the top of the pail. After driving down the cover se-curely this paper disk is laid on top. A strong cord is wrapped around the pail from top to bottom and crossed on top, then taken again around the pail and tied securely. This gives a cord in four places dividing the circumference into four parts. This cord holds the paper disk securely down on the cover. I then cut two cords long enough to go around the pail and leave enough ends to tie. One cord is placed an inch or so from the top, and the other the same distance from the bottom. As I go around the pail with these cords they are taken under and over the upright cords—that is a turn is taken on each of the upright cords. I do not now recall a single instance of honey shipped in this way arriving at destination in bad order, while it is not uncommon to

have complaints of broken and leaky packages when sent by express or freight.

I write the name and address on the paper disk, and also attach a tag bearing the same and my own address. The ten-pound pail, when prepared for mailing, weighs under 11 pounds and will go to the second zone for 15 cents. The 5-pound pail will come under six pounds, and 10 cents will carry it within the second zone. I have what I consider a very attractive blue label that reads:

"Pure Honey, Blue Label Brand, from the Star Apiary, Rhineland, Mo. S. E. Miller,

Prop."

In addition I have had printed small white labels with a red margin. These are one and



This picture shows how Mr. Miller prepares his five and ten pound pails of honey for shipment by parcel post.

one-fourth by two and one-fourth inches. I have two kinds; one of which reads, "Gathered from autumn flowers," and the other "From white clover." One of these (according to the kind of honey contained in the pail) is posted just underneath the larger blue label.

I could not find in the catalogs a label that suited me exactly in giving directions just how to care for honey; so I got one up according to my own ideas. It tells why and under what conditions honey will granu-

### FROM THE FIELD OF EXPERIENCE



late and gives the different ways of liquefying it without spoiling the flavor. Many people think that granulated honey is spoiled for use and do not know what to do with it. It is well to advise them with each container how to care for honey. One of these labels is placed on the reverse side of each pail.

Where do I find my customers? Well, I have some old-timers that have purchased honey from me for over 25 years. Then I write to the publisher of a newspaper in some small or moderate-sized city and propose that I send him a ten-pound pail of honey and take it out in advertising. Nearly all editors will accept this offer, and when they get the honey they are so well pleased with it that they will give me a pretty liberal amount of space. One in particular in our state capital usually runs a two-column ad of about three-inch space and carries it for three or four issues. I think he has got to where he expects his ten-pound pail of honey each autumn, and the results are very satisfactory to me.

The clerks in the postoffice and also some of the state officials got a taste of my honey, and they seem to pass the good word along. In some way a merchant found that my honey was having quite a run there and I have received liberal orders from him in five and six case lots of the five-pound lots.

I send out my circulars to parties that I know, and also have a list from the postmaster in St. Louis, giving the names and addresses of parties that purchase direct from the producer by parcel post. One customer that is well pleased will, as a rule, get one or two more.

Advertising in the daily or Sunday papers of the large cities I have not found satisfactory. The small amount of space they allow for a considerable sum makes advertising with them too expensive.

Sometimes when my crop is larger than usual I sell some of it to a manufacturer of high-grade candies in St. Louis, and usually get about one-third more than it would bring if shipped to a commission firm.

I make it a rule to sell only first-class honey to my retail customers. If I have an off-grade honey, such as honeydew, I sell it at an off-grade price to some manufacturer or a commission house.

S. E. Miller.

Rhineland, Mo.



### FIVE QUEENS IN A HIVE

How They Were Induced to Live Peacefully Together in the Same Brood Chamber

I was surprised at such an old practical beekeeper as A. C. Miller (page 566, Gleanings) departing so far from nature in his wintering experiment. But as he asks some quite difficult questions as to his queens, I will relate an experiment of my own, practiced in the year 1906. At about that time Gleanings was publishing a series of articles as to E. W. Alexander's management of bees. Among them were mentioned the benefits of dual queens and methods of introducing. I failed in practically introducing laying queens dually in a swarm by following Mr. Alexander's directions. I took six virgin queens and placed them in a full-sized colony isolated some distance from the yard, and after first preparing the colony to receive them I clipped the stings off the queens and liberated them in the swarm. The result was a great disturbance in the hive as shown by the demonstrations at the entrance. After a couple of days I made an examination and found all of the queens' wings cut off close to the thorax. I killed them and placed six more in the colony after clipping the stings and the horny part of one mandible.

Five out of the six were mated and laid regularly; but instead of expanding their brood-nest they all laid in the regular-sized brood-nest, and the cells had five eggs in them, which were gradually removed by the bees until only one was left. Sometimes, however, there were two or three left until they hatched into larval form.

When the flow of honey stops it is bee nature to practice strict economy in preparing for winter, as witness the killing of drones in the fall, and this is just what happened to my extra queens. The bees killed all but one, and therefore I think it will be a difficult job for Mr. Miller to winter over dual queens.

H. S. Philbrook.

Newbury Park, California.



### CAGED QUEENS LOSE FERTILITY

After Eighteen Days in Mailing Cages Two Queens Become Drone-Layers

In treating two advanced cases of European foul brood in July 1 kept the queens in mailing cages for 18 days. They were Italians of fine strain, reared this season and very prolific. But upon releasing them they were drone-layers—one entirely so—the other laying about three-fourths drone eggs. I held them some time to see if they would become normal, but there was no improvement. They were as beautiful and active as before being caged and seemed about as prolific, but they laid abnormally to a considerable extent, there being in many cells two, three and four eggs, and some of them were deposited on the side walls. This was not due to lack of strength of colony. Had I



### FROM THE FIELD OF EXPERIENCE



used a push-in-the-comb cage, I believe the result would have been otherwise.

When doing some requeening I brought some of the old queens home with me, and then decided to see how the "royal battle" is pulled off. So I put two in the same cage (there being three or four workers present). They made two or three attempts at battle, which seemed to me mild ones. I placed the queens away for the night, and next morning both queens were all right and apparently the best of friends.

European foul brood is very prevalent in this section and most "backlotters" have bad cases of "cold feet." In short, the situation, as I see it, is that bees can no longer be successfully kept here except by the man who is willing to make diligent application and learn the game thoroly all the way thru, and then allow no loose practices. Raymond, Wash.

M. C. Osborne.

## SAVES A LOT OF LIFTING

How Cable and Tackle are Used Above Long Rows of Hives

Mr. Swahn has his colonies arranged in three long rows capable of holding about 50 colonies to the row. At the end of each row he has had erected a telephone pole, with a cable running the full length of the row. He has constructed a carrier to run along this cable, the release of which is controlled by a rope fastened at the top. By merely jerking and slightly twisting the rope he can tighten it so that the carrier when lifted

into the air will remain stationary. The carrier is made something like a set of ice tongs, with the lower part of sufficient length to lift three or four hive-bodies.

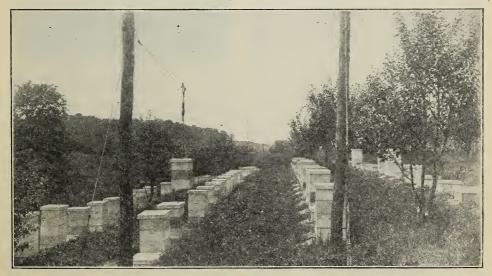
The big value of this piece of machinery is in that he is able to lift all the supers at one time, and leave them suspended in the air while he goes thru the brood-chamber. When he desires to put them back, all that he has to do is to give the rope a pull and lower the supers back upon the brood-chamber. The carrier rides the cable so that he can very easily shift it from one part of the yard to another, and it can be detached from one cable and placed on another in a very few minutes. Because of the length of the cable it necessarily sags to a more or less extent in the middle, but this is taken care of by an adjustable prop which can be placed at any position along the cable where he desires it. H. F. Wilson.

Madison, Wis.

### IT BOOSTS THE SALES

Inexpensive Local Advertising Works Wonders in Selling Honey

We need only to step into any grocery store to see many instances of how advertising is controlling not only the demand, but also the price of many articles of everyday use. While some large concerns are spending large sums of money and are accomplishing a great deal toward increasing the demand for honey, I believe that beekeepers everywhere will find themselves well



Mr. Swahn's apiary arranged for lifting supers by tackle and leaving them suspended in the air while the brood-chambers are being examined.



### FROM THE FIELD OF EXPERIENCE



repaid for any effort they put forth in local advertising. It will be found that the advertising cost will eventually be paid by the consumer, because of the increased demand and higher price for the honey which is advertised. The following are a few of the methods which have proved successful for me, which I hope may be of value to

A grocer has so many articles to display and sell that he can not give much attention to any one article, unless aided by persons interested in that particular product. Neat display signs, calling attention to honey and its uses, should be furnished to the grocer. These signs, as well as other advertising matter, may be obtained from the supply dealers at a very nominal cost or may be produced locally. Small slips to be placed by the grocer in out-going orders, calling the attention of the customer to the fact that the grocer has on hand a supply of honey from your apiary, together with a few suggestions for its use, may prove of value. One of the best and cheapest advertis-

ing mediums is the display window. A short time spent in aiding the grocer to fix an attractive honey window display will bring in a large increase of orders. The window to be decorated should, as a rule, be covered with cloth or paper of a suitable color to harmonize with the labels or other decora-tions. Crepe paper is good for this pur-pose and may be purchased in a variety of colors at any drug store. Decorations prepared for some holiday may be used. Artificial flowers placed among the jars and cans produce a pleasing effect. Honey in the comb and in a variety of glass and tin containers should then be placed in the window in neat order. A pyramid of honey in glass jars, with an electric light placed behind it, will attract much attention in the evening. A very attractive window sign may be made by taking five clear glass quart jars of honey, and on each jar pasting a letter cut from paper, so that the word "honey" is spelled out. A small box containing an electric light, with flasher attachment, is then placed behind these jars, and a small blinking electric sign is the result.

Since prohibition the use of sweets in all forms has been greatly increased. We furnish local soda fountains with neat display cards calling the attention of patrons to sodas, sundaes and malted milk drinks made with honey. Thick honey should be slightly diluted with water for fountain use, and is then used the same as any other fountain syrup. In my estimation there is not a better or more delicately flavored drink on the market than honey malted milk. Restaurants are also good places in which to place display cards because people have ample time to read them. Wordings such as "For Delicious Sweetness, Order

Honey, or "Order Honey, the Sweetheart of the Flowers," are good.

An advertising slide, run occasionally in a local picture theater, brings results. When cantaloupes were first on the market this season, we ran a slide suggesting the use of honey with cantaloupe. A number of people tried it and later remarked how good it was. A slide should not contain too much reading matter-about 15 words are plenty.

About once a year we make it a point to donate honey for some public dinner. Ten pounds will serve a large number of people, and many of them will later purchase a supply from their grocer.

When our local high school starts the fall term the domestic science class is presented with a pail of honey, with instructions to ask for more when needed. The teachers are usually glad to recommend its use.



A road-side honey display case used by Mr. Allen of Big Timber, Mont.

For those who live along a public highway the tourist business is quite profitable, as well as being good advertising. C. W. Allen of Big Timber, Mont., has a very unique road display sign, the novelty of which attracts a large per cent of the passers-by, who stop, and purchase not only honey but milk, butter and eggs. As seen by the illustration this display case is easy to construct. It has a hinged glass door on each side, which may be locked to protect the contents.

During the last four years the demand for honey has been increased fivefold in this community, due almost entirely to the small amount of diversified advertising which has been done.

Big Timber, Mont. R. A. Bray. OES Pollination Stimulate Growth of Fruit Body?" is asked on page 773 and answered in the negative by Axel Holst. The cases of seedless or-

anges, bananas and seedless tomatoes are given as examples, and so far he is quite right. But Nature is many-sided, and what is true of one plant may not be of another. A leaf of the Rex begonia, laid on a damp soil with a suitable temperature, will proceed to take root and form new plants, but it by no means follows that the leaves of other plants will do the same. In my back yard is an apple tree that produces many one-sided apples, i. e., one side fully developed while the other side is dwarfed or imperfectly developed; also some small ones one-half or one-fourth size. If we cut into these one-sided apples, we shall find seed in the well-developed side and no seed in the dwarfed side. The small apples contain no The same appears to be true of grapes. The seedless grapes or raisins, so far as I have observed, all appear to be dwarfed. This might at first seem to be a characteristic of the variety; but if we take a variety like some of Rodger's hybrids that produce both seeded and seedless grapes in the same cluster, we shall invariably find those having seeds are large and perfectly developed, while those without seed are small and inferior in size.

B. F. Kindig tells on page 777 that it is lawful in Michigan to give only the minimum net weight of sections in a case of sections. This, I understand, is true of the U. S. law in such matters, but is it desirable to pack our honey in this way—12, 13, 15 or 16 ounce sections all in the same case? I noticed in visiting several packing houses in Florida some years ago, that oranges were carefully sorted, one size going into one box and another size into another. So we find in the retail stores the oranges are sold according to their size, the large ones for one price and the smaller ones for less. Why should not the same be true of section honey? Why should the retail grocer charge as much for a 12-ounce section as a 15-ounce section, as he naturally would if all were labeled "minimum net weight, 12 ounces?"

After a busy day it is very enjoyable to take Gleanings in Bee Culture and sit by a warm fire and read of beekeeping in the "North, East, West and South," the pleasures, anxieties and disappointments of beekeepers in every direction, and feel that, after all, we have fared as well as the average or better than most of them. How freely have the flowers been distributed



over our broad land! As one nectar-producing plant disappears, another comes in to supply the bees and repay for their care. Surely the future is bright

for the success of our industry.

1 041 11144501

"The Silver Lining Grows Brighter," says the Editor on page 742. Well, I believe prices are not nearly so bad as they seem. We have had low prices before and lived thru it. I remember buying, years ago, the finest white sage honey in Boston for six cents a pound. Let us all rejoice that the price is low enough so that the poor, as well as the rich, may enjoy honey with their bread. The low price will lead such as have not used it, to do so, and those that have been using it, to use it more freely.

The increasing popularity of the large retail tin packages holding from 2½ to 10 pounds is evident from many pages of the December number of Gleanings. This has been our experience this year. I met with the Maine State Beekeepers' Association two weeks ago. The gathering was a joint meeting of beekeepers and fruit-growers. One speaker told how a retail grocer had changed from selling apples by the pound to selling by the bushel, and, as a result, sold several hundred more bushels than formerly.

Most interesting is that account of a battle between a bumblebee and honeybees, on page 777, causing the death of 25 honeybees before the giant bee was slain. It was as exciting as the story of David and Goliath, only it did not turn out as well. It increases our respect for the honeybees that counted not their lives dear to them when the good of the colony required the sacrifice.

One Maine beekeeper told me how he sold his crop of honey by canvassing the towns about his home by course, not skipping a single store, and he said he not only sold all his own honey but had to buy several thousand pounds to supply the demand.

Let us all try to remember the statement by John N. DeMuth, on page 772, of the value of sumac bobs for smoker fuel. If it proves as he says, as doubtless it will, it will be well worth remembering.

We were glad to notice, on page 753, that the U.S. Department of Agriculture has found that the honeybee is quite as efficient a pollenizer of red clover as the bumblebee.

O you remember the 'play thing drawer' in your mother's kitchen table?" asked a cousin who had come to be with us during those first hard



days when mother's loved form lay in the old home, awaiting the last resting place. Do I remember? It is one of my most precious memories, and it is such a revelation of our mother's character that I am going to tell you a little about it. Sweet and modest as the violet of her native England, mother always kept herself in the background, and only her husband and children know how much of the credit for anything which they have accomplished should go to

THE modern compact kitchen with its cabinet, sanitary table, and other conveniences to save steps is very different from my mother's kitchen when I was a little child. The table at which mother stood to do most of her work was of walnut, with drop leaves, and at one end was a wide, shallow drawer, designed for cutlery, cooking spoons, etc. But unselfishness, mother's dominant characteristic, is revealed in the fact that the drawer, within my recollection, never held anything to help mother in her work and save her steps. It held children's playthings. Little, hindering, and mischief-making hands were busy at the drawer much of the time while mother's patient feet carried her many steps to the large pantry after articles which might have been kept near at hand in the drawer.

That drawer reveals something of her life of service. Children's treasures are apt to be kept in the room in which mother spends most of her time. Father and mother were neither of them ever robust, and who knows but that the fact of all mother's children, grandchildren and great-grandchildren surviving her is due to her spending so many hours preparing simple but delicious and nutritious food for her family. In the early years of her married life the struggle to make ends meet made such work a necessity, and in later years she chose to do it because of her innate love of a simple life, a taste which she shared with father.

The old drawer reveals her sweet motherliness and love of all little children. When her own children were grown and had homes of their own she still kept the table drawer much as it had been. Some of my dearest recollections of mother are the visits we had when I took my babies, each one in turn, and sat beside that drawer, the current baby ecstatic over its contents while mother, still quick, active and light on her feet, went on with her work.

Mother was not only a baby lover; she was a baby charmer as well. She could pick up a baby screaming with pain or just baby rage at not having his own

way, lay him in a certain position across her knees, pat his back, trot him gently and

her knees, pat his back, trot him gently and rhythmically, talk to him and in a minute he would be smiling blissfully at grandma. The contents of the drawer reveal her understanding of child nature. I think there was scarcely a toy in it. By toy I mean something bought at a toy shop. It was filled with "treasures," queer bits of motal and wood an old steel purgle made was filted with treasures, queef ones of metal and wood, an old steel puzzle made by father, rubber balls, balls of string, little wooden boxes and a little shallow bowl, carved from black walnut. The last named we were fond of sailing on a "lake," which mother prepared for us by putting a dishpan or tub filled with water on the floor. In cold weather she always warmed the water of the little lake that childish hands might not be chilled. She never forgot the comfort of anyone but herself.

A few days ago when I visited mother's kitchen, opened the drawer and tried to see the contents thru hot tears I thought of another trait which the old drawer reveals. It was her talent for exquisite neatness and The drawer was lined with clean paper and its contents, now so few, were in perfect order. The old "treasures" were nearly all gone, given away, bit by bit, to coaxing grandchildren. But there was one thing with which mother never would part. Her youngest child, a son, many years ago visited a foundry, pressed his fat little hand into a clay mould and a workman filled the mould with molten metal. That little iron hand is still in the drawer, and the one whose boyish hand made the print is now, at thirty-eight, the father of a long-hopedfor baby boy, whom his grandmother never saw.

T was not only in babyhood that mother loved and mothered her grandchildren. The memory of her friendship for our two sons, now 22 and 18 years of age respectively, is a rich legacy for them and for us. I imagine their way of running to her and confiding in her reminded her of her own two sons in their boyhood. For years they seldom missed eating Sunday evening lunch with her, when in town, and I never could be quite sure whether she invited them or they just gravitated in that direction.

She was very happy over the school and college work of all her granchildren, for love of education amounted almost to a passion with her, and she was always ready to sacrifice anything that her dear ones might have the college education which she had missed.

But mother did not confine her loving acts of service to her children and their children. She was never so happy as when she could help the needy or lonely, those widowed or fatherless. I doubt if father himself realizes quite how many of his kind acts were done at her prompting.

In Florida she "mothered" the neighbors all around her, especially those who came for a season only and were unacquainted in the region. In her last letter, written just two or three days before her death, she was planning to take fruits and vegetables to a neighbor. To her a garden meant an opportunity to distribute its products among her children, friends, helpers and neighbors.

Mother's care for the helpless extended even to animals. Her tender heart would never let her rest until she had made sure And she looked just as cool and dignified as usual.

In reading over what I have written it seems so inadequate. I have not touched on her loyalty to friends, her wisdom as a counselor to husband and children, her ability in every branch of home-making and her indomitable energy which outlasted her strength.

Here is the Scriptural text which best describes her, "Even as the Son of Man came not to be ministered unto but to minister."

THE little picture below shows mother and father at a picnic. They would not accompany us to hotel dinners, they would not come to formal dinners or parties in their honor; but they loved simple picnic suppers out in the open, with their loved ones about them.



that an absent neighbor's chickens had water and food in plenty, stray cats and dogs must be fed, and she was miserable if she thought a horse was being neglected, overworked or abused.

A former pastor, not being able to find a word which expressed mother's thoughtfulness for others, coined the word "otherliness," as being more comprehensive than the word "motherliness." He also spoke of another word which always came into his mind in connection with mother, and that was the beautiful old word "gentlewoman."

Just to give you a glimpse of the lively and fun-loving side of mother let me tell a little incident. When mother was nearly seventy-two her youngest granddaughter, about a year old, had a habit of entertaining callers by turning graceful somersaults. It can be done gracefully, you know, if one is young and supple. My sisters and I were laughing about it with mother one day when she unexpectedly said, "That's easy, I could do it myself," and deftly folding her skirts about her ankles she put her head down on the rug, was over without a jar and on her feet again before we realized her intention.

Just two months before mother's death we celebrated her sixtieth wedding anniversary with a simple family supper. At this time she had ten children (including those her five had married, for mother herself regarded them as her children) ten grandchildren and four great-grandchildren, all alive and well, and the number of grandchildren has been increasel by one since then. Each successive year it has been harder for her to leave all these dear ones and go to her winter home in Florida. This year it was especially hard, as I believe she herself was sure she was not long for this world. But when the car took her away from us the tender, beautiful, mother smile was on her dear face.

Mother had suffered greatly at various times in her life, but when death came it was sudden and painless, while she was at work. It was what she would have chosen except for one thing. Her tender heart could not contemplate leaving father and she therefore had expressed a wish to outlive him that she might make him comfortable to the end. And I know father well enough to be sure he is thanking God that he is bearing the grief instead of mother.

I SIMPLY cannot get into my subject this month without being personal first. It is so long since I have been!—so here are



Greetings.

Happy New Year to you, friends, Gleaners one and all, Amateurs and veterans, beefolk great and small—
East and west and south and north, forest, field and fen—
Happy New Year to you all, womenfolk and men!
Happy New Year to the kiddies with their starry eyes!
Greetings to the Editors, friendly folk and wise!
Everybody, everywhere, here and overseas,
Happy New Year to you all—and also to your bees!

Frankly, that is a come-back. I greeted you just that way five years ago. But, in one way, I am coming back myself, today. That, at least, is how it feels—as the I had been away for a whole year in some far-off place of strange formalities, where all the friendly intimacies were forbidden. You may not have missed me, but oh dear!—oh dear everybody!—how I have missed you! Missed, that is, the old sense of chatting merrily with you—you others who love the great good world of the great good God and all the things in it, bees included—chatting merrily about a thousand and one things perhaps, the chiefly about the one.

Beekeeping is only a sideline with you and me, and we have an almost embarrassing wealth of interests besides that of bees. That is the bond of our fellowship. But life does not hold us to that, and it is hard sometimes to let the printed page so hold us. With the specialists, who must study so sternly and steadily their solemn problems of method and cost of production and the rest, it may be different. Tho deep down in my own heart I fancy, somehow, it may not. Most of them are so delightfully human, too. But anyway, this is not their Department! It expects them to skip it!

You see, we tried an experiment during 1921—had you noticed it? Part of us wasn't really happy about it, but she tried hard, at that. She tried to be very practical—tery—very direct and definite and detailed and matter-of-fact, howsoever prosy and dry-asdusty her page might thus become. (Remember the anatomy number?—!!! Yet, after all, the real joke was—it was fun!) But now—well, the rest of us have been most courteous. And I have come back. If, however, you don't like it—you who keep bees for a sideline—if you really do not want one single thing except bees, beekeeping and beekeepers mentioned in this department—and that without trimmings or

flully - ruffles—no friendly personalities and no glimpses—into the great world of action or aspiration or beauty or books—you have only, I suppose, to men-

tion that fact to the Editors. And there will be another change.

One day last year, at about this time, I didn't know whether to laugh or to break my heart. Over and again I had tried to write the January Sideline article in a new mood and manner. I wrote and destroyed, wrote and destroyed; but each effort was more dead and wooden than its predecessor. Till at last, in a sort of blithe despair, I wisely gave up, and did these lines instead—

On Trying to Write as Requested.

My thoughts come dressed in gayest gauze,
Like baby rainbows tipped with wings.
They leap from flower to star to catch
The little echoes when life sings.
They kneel or dance impartially
For thoughts are spirit things.

But one cold dawn I dragged them forth
And wrapped them round with sober gray.
"Now keep your feet on earth," said I,
"And walk as proper people say,
Down roads of reason, hedged and straight,
And-get-some-where-I-pray!

They walked like mummies in old masks! All day I grieved because their tread So hollow rang. I did not know That something out of them had fled—Till spirit things, with rainbow wings, Came laughing home to bed!

Do you know Virgil's Georgics? I have been living with them in the spare time of the last few days, till I feel as tho I had been in Mantua. And Virgil, known previously only in the Arma virumque cano of schooldays, has sung his way straight into my heart and on to the ends of my fingertips.

By what long paths of wonder do the ancient gifts come down! Seventy years before the birth of Jesus of Nazareth, was Virgil born. Great actors were on the world's stage in those days—even as in these. While the little Virgil played about his father's farm, Pompey was clearing the Mediterranean of pirates, Cicero was thundering his deathless orations against conspiring Catiline, and the great Augustus was born. While he was a schoolboy, Caesar was conquering Gaul. While he was still a young man, Pompey the Great was overcome by Julius Caesar—still greater; four years later Caesar himself was assassinated "at the base of Pompey's statue,

Which all the time ran blood . ..'; Brutus, defeated in his turn, slew himself at Philippi; and Marc Anthony gave his intoxicated soul into the keeping of Egypt's queen. Before he was forty, Anthony and Cleopatra, overcome in battle, had brought

about their own deaths and the fall of Egypt; the Civil Wars were at an end, and the warring Roman Republic had become a peaceful Empire under Augustus, who "found Rome a city of brick and left it a city of marble." And during all these years, the poet Virgil, delicate of health but robust of ambition, had lived quietly in the country with his books and his Muses, writing ever greater and greater poetry.

Thru all these centuries it has lived, both in the original "sensitive Latin" and in many translations into all modern languages. In this country and this century, a new translation has been made by that scholarly lover of Latin poetry, Theodore Chickering Williams, so saturated with Latin that he "wrote it, spoke it, thought in it," loved it and turned it into English of such beauty and, we are told, such scholarly fidelity, that he has made us love it too. The Williams Georgics in the library at Peabody College is the last link in the long chain leading to this page from Virgil at Mantua, with his slaves writing his lines on papyrus-nearly two thousand years ago.

There are four Georgics-strangely serious poems about country life, mingling a gentle song on the beauty of the Italian countryside with "a continuous chant on the worth of work" and an unbelievably interesting, straightforward presentation of practical information and instruction. For Virgil was really a countryman, tho intimately associated with Augustus to whom he was, with cause, deeply devoted. He was intensely patriotic. With earnest conviction amounting to consecration, he wrote these poems as his effort to help strengthen his country and solidify the State of Augustus, by chanting of the dignity of farm life the honorable foundation of national peace, family virtue and individual content.

The First Georgic treats largely of the cultivation of the soil and the signs of the weather. The Second, which contains, say those who know and dare to say, "the most perfect passage in all Latin poetry," treats of trees, orchards, fruits, wine. The Third takes up flocks and herds. The Fourth is about bees.

In this Fourth Georgic, Virgil writes about many things we write about today-location, windbreaks, shade, water, entrances, swarms, wing-clipping, moth, disease and its treatment, the division of labor, destruction of the drones and devotion to the queen—called "king" in his day. The king error is not the only one. We realize, in a selfsatisfied way, how far we have gone since that last century before Christ-tho not so far, perhaps, for the time we have hadwhen we read some of the queer ideas of beekeepers of that period. The funniest are the "clashing cymbals" at swarming time-tho I understand some folks still clash 'em!-the pebbles for ballast, the treatment of disease and the ideas of reproduction. Then there are other plain errors, just as apparent, the not so striking.

But I wonder what the progressive readers of Gleanings in A. D. 3821 will say about our own bee books and journals, to say nothing of our verse, when they are nineteen hundred years old!

Here then are a few brief extracts from the Fourth Georgic of Virgil:

"First, find the bees safe shelter and abode 

But flowing fountains near the hives should be, Still pools with fresh, green mosses bordered round, And thru the grasses a small rill should run. Above their portals let a branching palm Or large wild olive its deep shadows throw,

Around the place let verdant cassias grow, With much strong-scented thyme, and let the stream Flow thru sweet beds of thirsting violets. The hives themselves, if stitched of hollow bark Or plaited basket-work, should have but doors Of narrow compass

Thou likewise o'er the beehives' crannied sides Wilt smear warm clay, patting it down, and then Strew leaves on ton 

Thy art must govern their inconstant mind. The task is easy. Thou hast but to clip The 'leaders' wings; for when these lag below, No common bee will soar aloft, nor dare Give marching orders to the bivouac.

They are the only creatures to possess Offspring in common, and their city build Of undivided houses, where they live Onspring in common, and their city build of undivided houses, where they live Obeying mighty laws.

Warned of approaching winter, they employ Their summer's day in toil, and store their gains As common treasure. Certain chosen ones Forage for food and, so it is agreed, Keep busy in the fields while others, pent Within the walls of houses, firmly mould The bottom of the comb. Others lead forth Their infant brood in air, the tribe to be. Still others closely pack the honeydew, Till every cell with nectared sweet runs o'er. For others 'tis the apportioned task to stand Gate-sentinels, and keep alternate watch For auguries of rain and cloudy skies. These at the gates receive the little loads Of the home-comers, or, lined up for war, Fight the dull drones and bar them from the hive.

The oldest ones. Take counsel for their city, raising walls About the honied treasure. but the younger so: t Come late at eve and weary, bringing home

About the honied treasure . but the younger of the late at eve and weary, bringing home Thigh-loads of flowery food.

Sometimes they lift small pebbles, as light boats Bear ballast thru the waves; and weighted so, They know their helared disht thru treasured. They keep their balanced flight thru stormful air.

But veriest marvel of the ways of bees Is that . . . . from leaves Of fragrant herbs the mothers with their lips Breathe in their offspring, and all virginal Give birth to kings and tiny citizens. Repeopling so their waxen state and throne."

So much that is lovely is omitted! some of the rest we must have next month.



any size.

## FROM NORTH, EAST, WEST AND SOUTH



In Southern California.—Dry and still more dry are the weather conditions through the southern California. It is a serious question as to whether the early rains were a help or an injury to next year's honey crop. Sage, that put on two or more inches of growth after the rain, is now drying up. This severely injures the prospects for sage honey next season. Perhaps we count too much on expectant rainfall. An old Indian once said when asked if he thought that there would be much rain: "Don't know; this all time dry country; no big trees, all time small brush." He may have been right as it is only on the mountains and along the waterways that we find natural timber of

Considerable off bloom is found on the different varieties of fruit trees. Only a week or two ago a pear orchard was in full bloom. This was probably caused by the early rainfall, followed by very warm weather. Lately we have had several days of "norther," a severe, dry and dusty wind. We always hope for a rain after one of these winds; but, as they blow from the north and east, we seldom get any moisture for some time after.

As the year draws to a close, beekeepers begin to ask themselves questions somewhat like the following: Did 1 make any money on my bees in 1921? What are the prospects for good honey prices in the future? Are bees likely to continue to be considered good property and to have a value commensurate with their earning ability? The first question can be answered only by the individual beekeeper. As to the second, I feel confident that good living prices will prevail for years to come. Values will always fluctuate, and we can hardly expect ever to see the war-time prices again, nor need we expect the extremely low prices of a few years ago. In answer to the third question, I would say that bees will always be considered good property and will have a value more or less in proportion to their earning ability. Right now bees are being offered much cheaper than a year ago and may go even lower be-fore another honey season. It is quite often the case that when a beekeeper needs money, he will sell the "goose that lays the golden egg." Also once in a while some one wants to leave the locality or go out of the business and offers his bees and equipment at a bargain. These are opportunities that every real beekeeper should take advantage

For a term of 26 years, thru lean years and fat, with crops varying from nothing to 200 pounds per colony and with prices ranging from three and a half to 22 cents per pound by the carlot, and good crops at each

time, with bees ranging in price from the cost of the hive or less to \$15 per colony, I can still say that the business has been satisfactory and has given good returns for the time and money put into it. We know of nothing that a young man can go into, capital and labor considered, that will give better returns during a period of years. The big proviso in connection with these statements is that the young man must have "pep" and must thoroughly enjoy the work.

An old boyhood friend of mine once said to me: "If I could only let my business run itself or let others run it satisfactorily for one or two months in the year, as you beekeepers do, I would be very willing to take the responsibility for the other ten or eleven months. But, you see, it is like this. I am in the chicken business, and I must be at home Sundays and week days, mornings and evenings, 365 days in the year.'' This man enjoys his work and is successful financially, and yet he longs for a little time for recreation. But our business is different in many ways and takes a different management. Our work is not continuous thruout the year, but neither do our returns come in every day, week or month. We must often distribute the returns from one sale over a whole year. Day after day do we work, with no financial reward for several months or even more. And last but not least, the work often gets monotonous, as a fellow has to work day after day alone, with no one to speak to from morning until night.

Two men from Arizona were making a tour of southern California during the month of November and called to see me. They were seeking information in regard to shipping packages of bees by mail or express. In their locality they have a peculiar condition that should be good for this line of work. Colonies under normal condition get very strong during the early spring months, and yet the real nectar flow does not come until the summer months. A great problem with the beekeepers of this district has been to retard early brood-rearing, and thus try to prevent swarming. It has been some problem, but by doing this they save part of the stores that would be consumed by a somewhat useless early brood. The idea now is to allow the bees to get strong early, and then to sell several pounds of bees from each colony. By this method nature is allowed to take its course, and besides a large part of the low-grade honey, that would necessarily have to be sold at a low price, can be used in raising these young bees. The northern beekeepers need young bees early, and these southern beekeepers have more than they need. Co-operation will be a good thing for both. L. L. Andrews.

Corona, Calif.



## FROM NORTH, EAST, WEST AND SOUTH



In the Northwest.—The past October the warmest October for many years according to the report of the Weather Bureau. The rainfall has also been less than normal up until the middle of November. Up to the present writing (November 29) there has been no killing frost in many parts west of the Cascades. Recent heavy snows in eastern Oregon and a silver thaw in the Portland section may have done some damage.

Beekeepers who neglected to feed their light colonies earlier in the fall should prepare to give them frames of candy, made after the recipe found in A B C and X Y Z. The writer finds it convenient to use an empty but wired frame as a mould into which the hot candy is poured. A cardboard is tacked to one side to keep the candy from running out until cold. When cold the frame of solid candy is placed in the hive near to the cluster.

Honey is moving in a satisfactory way and will apparently be well cleaned up be-

fore the new crop appears.

American foul brood has recently been found in Deschutes County for the first time. Three samples have been determined by the Bureau of Entomology. One sample came from Tumalo and two samples from Sisters.

Beekeepers should keep in mind the meeting of the Oregon State Beekeepers' Association, which is to be held at Pendleton, Ore., January 26-27. H. A. Scullen.

Corvallis, Ore.

In Texas. There has been too little rain in November for the best development of honey plants. Broomweed, asters, yellowtop and kinnickmick are still in bloom and bees are still at work. Beekeepers took advantage of the cool period in the middle of the month to take the remainder of the honey crop. Because of dry weather very little honey has been taken from the hives since the first of August-no honey flows and robbing too fierce. This honey comes in very handy now, as the demand for bulk comb is yet strong and the supply is almost exhausted. The latter part of the month the bees were extremely busy collecting propolis from Mexican persimmon. It looks as if they expect winter soon and intend to be readv.

Our first frost occurred the morning of November 28, but was not severe enough to hurt anything. The honey plants are in good condition. Horsemint seedlings are numerous and of good size. Huajilla has put on the growth required to give a blooming next spring. Agarita, altho not rating as a surplus honey plant, is very important as it furnishes much pollen and nectar for brood-rearing. At the present time it is in better condition than for years. This is one

of the plants which, like the tulip tree of the East, is a surplus producer if the bees

are strong early in the year.

Mistletoe, the plant that starts off our brood-rearing, is just ready to bloom. This plant is peculiar in that it blooms in December and January, and ripens its fruits the next December and January. The berries are now ripe, and the flower buds are ready to burst into full bloom whenever there comes a bright dry day. The pollen is yellow-green, and for the next two months on every warm day the bees will bring in great quantities of it. While mistletoe is a parasite, it is more prevalent than many other species of bee plants.

Another species of horsemint has shown up. This is a perennial species with narrow leaves and flower resembling those of M. Punctata but smaller. It blooms from April to December and bees work it all the season. Its habitat, so far as known, is the sandy land of the Gulf Coast prairie. It is believed that this mint exists in large quantities over a considerable area. This may help to explain some of the peculiarities so far unexplainable relative to horsemint

Honey plants, often ones of considerable importance, are continually being brought to notice. This fall the hills of the Edward's Escarpment country were white with the bloom of the bush-bonnet (Eupatorium ageratifolium). This plant blooms in May and then again in October and November. This fall it bloomed heavily and bees worked it heavily. As an ornamental this plant

should be in every yard.

Thruout south Texas there is cultivated a shrub called Russian Pea or Bird-of-Paradise flower. The plant is a near relative to mesquite and retama. It is easily recognized by its showy yellow flower and the very long bright-red stamens. The plant (Poinciana gilliesii) is a native of West Texas and New Mexico. In a few places east of the Pecos it has escaped and seems to thrive. This plant is peculiar in that it secretes its nectar late in the afternoon. During the past summer bees would begin working this plant about 4 p. m. and continue until dark. Where this plant is abundant it is valuable, as the heat of summer seems to increase the amount of bloom.

A. H. Alax, state queen-breeder, and C. S. Hear, bee inspector, have spent a month inspecting bees in Wilson County. They report the bees of that county in fine condition and foul brood not so prevalent as commonly supposed. They say that the honey plants are in fine condition, horsemint being especially good.

The movement of honey is quite rapid, and the demand is growing stronger. Little honey, however, is in the hands of the pro-

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## FROM NORTH, EAST, WEST AND SOUTH



ducers. Many beekeepers offered their bees for sale on account of the low price of honey. These offers were taken almost as soon as made. As a whole the beekeepers are optimistic.

H. B. Parks.

San Antonio, Tex.

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In Wisconsin.—Cloverland." That slo-"Cloverland honey from gan ought to sell honey if anything can; and if the beekeepers of northern Minnesota, the upper peninsula of Michigan and northern Wisconsin ever unite in an effort to spread their propaganda, the rest of the world will need to hustle. We folks from Wisconsin admit that we have one of the finest beekeeping regions in the world, but even in this region there are better localities. Little has been said about northern Wisconsin and upper Michigan; but, if ever there was a paradise for beekeepers, that is the place—a honey flow that lasts from spring to September and in which a surplus from raspberry, clover, basswood and fireweed can be secured, beside a further surplus from fall flowers.

The first of August showed little surplus in northern Wisconsin this year, but after that date a big surplus came to those who were in the favored regions or else moved their bees into fireweed sections. Beekeepers who are planning to make a change should look over this land of opportunities, for not only is it a wonderful bee territory, but also one may hunt and fish to his heart's

content.

A farthest-north meeting of beekeepers was held at Iron Mountain, Mich., Nov. 17 and 18, for the benefit of the beekeepers of upper Michigan and northeast Wisconsin. Mr. Kindig and Mr. Uhlman represented Michigan, while the writer and C. D. Adams helped to spread the gospel from Wisconsin. The most interesting thing of all was the beeyard of a Mrs. Eskil on the outskirts of the city. Mrs. Eskil packs her bees in single cases with about three inches of packing. She reports the best of success, and we wonder whether bee cellars are really better or beat.

Among the new lines of marketing attempted in Wisconsin this year was a marketing exposition, which was held in Milwaukee Dec. 5 to 10. The exposition was held in the city auditorium where all the agricultural marketing organizations made displays of the products which they offer for sale. The Wisconsin Honey Producers' Co-operative Association had a booth where samples of honey in 8-ounce jars were disposed of to prospective buyers. This show will be an annual affair, and it is hoped that the conventions of each organization represented will be held during the same week.

The State Beekeepers' Association held their meeting in one of the committee rooms of the exposition auditorium, and, in spite of the fact that this was a new innovation, the meetings were well attended.

Wisconsin honey is rapidly disappearing from the market, and there should be no old stock on hand when the next harvest begins.

Fall conditions in Wisconsin have been somewhat similar to those of 1920, and many of our beekeepers left the bees with an abundance of stores in October to find the the bees light again in November. It is. difficult to explain the cause; but for some reason the bees have used up an unusually large amount of stores, and several beekeepers, who packed their bees early, report that they have had to unpack and feed a second time. Beekeepers thruout the northern states should be prepared to make an early examination of their bees in the spring to see that sufficient stores are present, as it seems quite likely that even the strongest colonies will be in need of stores for spring H. F. Wilson. brood-rearing.

Madison, Wis.

Bees in this section of the country had their last flight in October. November 7 snow came, and it snowed almost daily for two weeks. It stayed cold, with the snow eight inches deep. The lowest temperature was 12 degrees above zero. Most of the bees to be wintered in the cellar were put in around the 20th, covered with snow. The last few days in November turned warm again with rain, and on Dec. 2 all the snow was gone again. This season the bees could have been placed in the cellars to their advantage the first week in November.

Honey continues to move rapidly, and local beekeepers will be sold out by Jan. 1. Many stores will be without local honey on their shelves by that time. This would not be necessary if our co-operative marketing association were now in operation. In our opinion this is the only possible solution of the problem. Our local beekeepers cannot and will not buy honey and put it up for the trade. A state bottling plant, with a uniform blend of honey, all with the same uniform label, "Association Honey," would be the best means of supplying the established trade of individual beekeepers who have not enough honey to supply the trade the year around.

Edward Hassinger, Jr.

Greenville, Wis.

In Indiana.—The season's crop in northern Indiana has proved to be somewhat better than the average. Had it not been for the large fall flow following heavy rains in August, there would have been a considerable shortage. The honey is



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of fine quality and is moving well, the local

market being exceptionally good.

With plentiful rainfall thruout the last part of the season, the clovers apparently are in excellent condition. The next sea-son's crop, however, will be determined chiefly by the winter and spring precipitation, and by the weather during the clover flow. It's a wise prophet who really can

forecast a honey crop.

The local and shipping demand for honey this year is very much greater than usual. In fact, more honey is being sold to the consumer than ever before both thru the retail grocers and direct from the producer. There are probably a number of reasons. One is the unusual shortage of fresh and canned fruits. A recent report in the Chicago Journal of Commerce declares the market almost bare of canned fruits of all kinds. Another cause for increased sales of honey is the in-creased amount of advertising, both local and in journals of nation-wide circulation. There is no doubt but that the efforts of the American Honey Producers' League, as well as the advertising of some of the large dealers, has contributed very materially in creating a demand for honey in every part of the United States. Furthermore, many carloads of honey put up in five and ten pound pails are being shipped from the West to our large cities and distributed by canvassers directly to the consuming public in a house to house campaign. Where reasonable prices are demanded it helps the market rather than depressing it, as would be the case if it were left in the hands of brokers and commission men in the large cen-

We still have in our midst the fool beekeeper who persists in selling his product at a price below the market and then brags how much he can sell. The bees, you know, work for nothing and board themselves, and, as his time isn't worth anything, he can afford to undersell the grocer and everybody else. As a rule, he doesn't take a bee journal nor attend any meetings of beekeepers; consequently he knows all about bees and selling honey. If one were to attempt to buy his crop, he would demand about twice the price he asks in retailing it. To make things more interesting he often will advertise in the local papers to deliver honey at about the price quoted by commission men in the large city. This practice of under-selling the grocer, probably more than anything else, prevents the marketing of honey at a profit. If one were to count all the costs in the production of honey, depreciation, interest, labor, etc., it will be found that, in most localities, these costs are above the present wholesale prices quoted by city E. S. Miller. dealers.

Valparaiso, Ind.

In Michigan.— At this time of the year the real strenuous days of the season, so far as northern Michigan beekeepers are concerned, are over. The honey harvest is completed, the bees packed for winter, and the honey nearly all sold; and yet there are at least a few things to which it might be well to call attention, which are of vital importance to the success of the coming season. First, we should continue to talk honey and sell honey until it is all sold, for we all know the effect a bare market has in stimulating a fair and just price. The buyers cannot say, "You know that there is a great deal of last season's honey left over." And then I just believe it sharpens the appetite to be without it a little while previous to the new offerings. Second, there is nothing more important or vital to the success of out-of-door wintering than a good windbreak. Do not build a solid fence, it is nearly valueless. I have had one for years and believe I speak the truth. Wind has a tendency to cling to the surface and will sweep over the fence and down again in a very short space. Build the windbreak to break the wind. Place the boards several inches apart and note the effect. It is a real windbreak. However, nothing is better than a natural brush-break of short bushy shrubbery or scrub trees. I wintered perfectly the past year with the proper windbreak, where for many years I failed for lack of it.

I am experimenting this winter with 45 colonies, placed in a thick second-growth wood. They have no packing overhead except a canvas cloth, a bag and several thicknesses of newspapers. I am also placing 16 colonies in the shelter of a wood, orchard and other brush, along with a neighbor who has wintered successfully year after year regardless of the severity of the weather. The secret of his success is the windbreak, which protects his colonies, spring and fall, and causes the snow to pile up over them in the winter, giving them the necessary protection in our latitude from zero weather. It was not until I had written the above that I read E. R. Root's timely article on "The Value of Windbreaks." However, I feel that a good protection from the prevailing cold winds is so necessary for good wintering that I am going to leave it as a second warning to those who have neglected the matter.

Remember also that bees packed in winter cases should have protection against the severe winds, and it will pay big returns for the labor and expense. Northern Michigan very often has a heavy short white honey flow and all supplies should be purchased and assembled during the winter and spring

months to be in readiness for it. Every year I have many neighbors who leave their farm



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work to come to me to get a super or two, or have to hive a swarm of bees, when the loss of time could profitably be avoided. Again, this is the logical time to read and plan and make preparations for any experiments we may wish to make the coming season. The snow is piled high and the winds cold, and, on these stormy days when we cannot do much out-of-doors, we can occupy our time to advantage in reading and planning and working in the shop.

East Jordan, Mich. Ira D. Bartlett.

In Pennsylvania.— The late fall has tempted many beekeepers to delay unusually long in packing or cellaring their bees. In many cases, those who usually pack in October did not have the work all done in late November, and the cellaring usually done in early November has been put off until the time of this writing (Dec. 3). There are still many bees waiting for that last flight. This is danger-ous practice. As soon as brood-rearing is over, the bees go into their winter rest and should not be disturbed. It is a bad thing to put bees in the cellar before all the brood has emerged and the young bees have had their flight. This usually occurs in New York and northern Pennsylvania by the first of November. Bees should be placed in the cellar at this time before hard freezing and snow come.

Outdoor packing may well be done any time after the fall honey flow and before brood-rearing is over. Less mixing of the flying bees and less harmful disturbances generally will result by placing the hives in packing cases, while the weather is warm and the bees are flying, than after they have

Many bee-cellars are giving better results than they did four years ago. The two main improvements have been higher temperature and less ventilation. The cold cellar with a lot of ventilation, where bees have wintered badly, usually makes a good cellar by closing the ventilators and providing better insulation

Hundreds of new packing cases, well made and heavily insulated, have been built in the past summer. The quadruple case seems to be in the lead, altho many very good cases of other styles are seen. Some still cling to the idea that a thin-walled chaff-packed hive with no bottom insulation or a packing case with no bottom insulation is good enough. The nemesis of such beekeeping is spring dwindling, European foul brood and a short honey crop.

More feeding of granulated sugar has been done this fall than for several years. Now that sugar is back to a normal supply, beekeepers should make a regular practice of feeding about 15 pounds of sugar to each colony in October, to insure good winter food and prevent the consuming of aster and goldenrod honey. The goldenrod flow was unusually heavy this fall, and thousands of colonies crowded the queens practically out of the brood-nests in September. This may result in a shortage of young bees and in dwindling colonies in winter and spring. State College, Pa. Geo. H. Rea.

In New York.— The Western New York Honey Producers' meeting at Buffalo, Nov. 15, was not as well attended as usual, about 75 being present. But unusual interest was manifested in the discussions, especially on factory or homemade supplies and the marketing of honey. The consensus of opinion was that it does not pay the majority of beekeepers to make their own supplies, considering the recent reductions in the price of factory-made goods and that a big per cent of homemade supplies are not made true, being but poor substitutes, to say the best.

The matter of marketing and the selling price of honey was the real issue of the day. Following a very interesting talk on marketing by Mr. Marks of Silver Creek, a very lively discussion occurred. The great variance in prices that have obtained thruout the country has been manifest to a greater or less extent in western New York, and the price-cutting evil has made some rather hard feelings.

As has been customary in the past, the Association thru its crop and market committee sent out price recommendations, advising beekeepers not to sell at less than the recommended prices. The great majority of members held for and received this price, while a few sold for considerably less. This, of course, would not have been so bad had the sales been in a jobbing way, but it was mostly in the retail trade. A few members sold as low as 50% under the recommendations, while others in the same neighborhood were selling for association prices. Naturally the man holding feels peeved at his neighbor and brother member who undersold him, and it is evident unless something can be done to eliminate this condition that the Association, which has meant thousands of dollars to the beekeepers here during the last decade and, what is more, has built up a fraternal feeling among over a hundred beekeepers, must suffer. I have no remedy to offer, but I cannot help but notice that those who are first to cut the price never spend any effort or money in advertising. Supposing all beekeepers resorted to the same tactics, what would the outcome

In common with beekeepers everywhere we became interested in annual sweet clover and bought an ounce of seed last spring;



### FROM NORTH, EAST, WEST AND SOUTH



sowed it in a little plot about the first of May and about the first of June transplanted it into the open field in rows 3 feet apart and 18 inches in the rows, and cultivated the same as we do corn. Altho this was the dryest summer in history it made a growth of from 4 to 5 feet and ripened its seed. The ounce gave us plants enough for about onehalf acre, and when harvested made a nice little jag on the Ford ton truck. We tried to thrash this out with flails on the barn floor but could not get nearly all the seed off the straw in this manner. However, we succeeded in getting enough unhulled seed and leaves to fill a grain bag, and we are now wondering if we can sow this unhulled seed next spring and have it mature next summer or whether we should sow it this winter to give the elements a chance to rot off the hulls. Who will tell us? We might add that we don't feel so overmuch enthused about this annual, and cannot see any great advantage that it is going to have over the biennial, which is being grown with increasing acreage and is the only clover seeding that has withstood the past season's drouth in this locality. [Your Hubam seed should be scarified to sow next spring .- Edi-

It seems that a good many of our neighbors in Ontario are still using the draining method for cappings, having many barrels of cappings candied solid to render during winter. They seem to feel that the capping melters are not a success, being either too slow in operation or else discloring the honey. In our practice we drain the cappings during the day while we are uncapping and at the end of the day run them very rapidly over a Peterson melter, having a three-burner oil stove to furnish the heat. In this way one man will tidy up the honeyhouse and render all the cappings from a day's extracting in about two hours' time in the evening, leaving everything ready for a clean start next morning. Running the cappings thus rapidly we find but very little discoloring of the honey, and we like it much better than having a lot of barrels of cappings standing around. H. M. Myers.

In Georgia.— I do not think that bees in this state have ever gone into winter quarters in better average condition. If we can have the right kind of weather next spring, this means a good lot of bees on hand ready for the early nectar that usually comes, especially in the Coastal Plain region of Georgia and adjoining states. The fall crop has been unusually abundant, but in this locality has been mostly left with the bees. The early crop was mostly sold long ago, so that there is now

Ransomville, N. Y.

little upon the market in this vicinity and prices are irregular.

In some parts of the state the early crop was fairly good, and is selling fairly well, considering the cheapness of cane syrup, which is the strongest rival that honey has in this part of the country. It is only the best grades of honey that will compete with it for table use.

The Southeastern Fair at Atlanta had a very creditable honey exhibit from different parts of this state, Tennessee and Alabama. The Georgia State Fair at Macon had a better exhibit of honey than was expected, and the large building that was tendered the Georgia Beekeepers' Association was reasonably well filled with honey, bees and apiarian supplies, so that those interested could get some idea of the methods of modern apiculture and the magnitude and importance of the industry in the state. This makes a good start for the association in the direction of exhibits and was the means of selling a good lot of honey on the spot. Next year it ought to be very much better in every way, and probably will be.

I was glad to see a good deal of interest taken in improving the bee pasturage in the state, and several encouraging reports were received from those that had scattered seeds of sweet clover. I saw some stalks of it growing where seed had been scattered in Bermuda grass without any sort of cultivation, which encourages the hope that it can be easily raised in Georgia, especially the Hubam variety. If all beekeepers will make it a point to start a small patch of it next year and master the problem of raising it and making it pay as a money crop, aside from its value for honey, and show the farmers how, there is no telling what great things in the agricultural and apicultural lines may result from it.

There are many thousands of peach trees in the northern half of the Coastal Plain and in the Piedmont region, and I saw at the state fair my first sample of honey that tasted like peaches. If we could produce such honey by the hon we could sell it like hot cakes; but unfortunately it is a rare thing to get any at all—partly, I suppose, because the bees are not strong enough at the time peach trees bloom, but mostly because of unfavorable weather conditions.

Norman Park, Ga. T. W. Livingston.

In Ontario. — As mentioned in December was ushered in here in Ontario with a real wintry appearance, some six inches of snow falling during the first few days of the month. But the white mantle soon disappeared, and up to Dec. 9 the late fall and early winter have not been unusually cold.

## FROM NORTH, EAST, WEST AND SOUTH



In fact, I should say that the temperature has been above the average for the time of But while we have had little cold weather, yet here in our immediate section we have not had a day since late October in which bees could fly freely. And this uncertain weather is responsible for the fact that our 65 colonies, which are to go into the cellar, are still outdoors. We have waited in vain for that fine day for a flight, but if all goes well they go inside tomorrow morning (Dec. 10). I expect they would have been better off inside two weeks ago; but, of course, we naturally hoped for another flight before placing them inside. No matter what can be said against outdoor wintering, one thing is sure, there is less care in fall and spring with outdoors bees, as when once they are packed in October we pay little attention to weather after that.

The Ontario Beekeepers' Association met in Toronto on Nov. 22, 23 and 24. There was a large attendance—about 300 I think—just as there is always a large attendance at the meetings of this association. In addition to the representative gathering of members of the craft from here in Ontario, we were favored with the presence of a number from across "the line," and some from sister provinces of the Dominion. New York had a splendid representation, among whom I might mention Mr. and Mrs. House, Mr. and Mrs. Stone, Messrs. Myers, Lesser and Kinyon. E. R. Root came unexpectedly, but he is always welcome; and when he missed the evening train on which he intended to leave for home, thus having another session with us, it was the old story of one's loss being some one else's gain. Indiana was ably represented by the inimitable Jay Smith, who had two addresses assigned to him, both on the subject of breeding and rearing queens. Mr. Smith understands his business all right, and this knowledge, coupled with a keen sense of humor, always assures him of a good hearing in any gathering of beekeepers.

C. E. Petch gave a splendid talk on beekeeping in Quebec province, while Mr. L. T. Floyd, Provincial Apiarist of Manitoba, gave us a delightful and much useful information on the subject, "Beekeeping in the Northwest." So, all told, the gathering was more than local, and the information given by these men from the United States and provinces of our Dominion was of such a nature as to interest all, many lasting impressions being given. Many of our largest producers were present, and the discussions carried on by old timers like Messrs. Sibbald, Krouse, Holtermann, Chrysler, McKinnon and others, who number their colonies by the hundred, always bring out something of value. Then we have a fine lot of younger men coming on in the business, and many

are not slow to express their opinions when any debatable question is on; so it is an assured fact that the conventions of the future will not lack material for profitable meetings.

It would take up too much space to enter into details of the various addresses given. and I shall not attempt to make even a brief reference to the sundry good things of the eight sessions. Aside from the regular issues of beekeeping commonly discussed, possibly the address given by the Minister of Agriculture for Ontario, Hon. Manning Doherty, stirred up more interest than all other matters. He spoke on the subject of "Marketing," and to the surprise of many present, in the course of a vigorous address he strongly advised the association to get together at once and form a co-operative union for the purpose of handling the honey crop in future years. Mr. Doherty is a forceful speaker and his earnest manner carries an audience with him, so there is no question but that he convinced the great mass of the beekeepers present (for the time being at least) that his ideas were the proper ones to act upon. I feel skeptical at this stage as to the scheme's working out at the present in a successful way, for as yet we can sell honey too easily. This may seem like a foolish statement, but facts seem to point to the conclusion that all the cooperative associations that are making a success were driven to take action because of dire necessity. That is, conditions had reached such a stage that there was no profit in their business any more, and they had to get together to save themselves from bankruptcy. Human nature is about the same among beekeepers as in any other class, and until we can get enough cohesion among the great mass of producers, so that nearly all will join any association formed to further the progress of its members, I can see little prospect of success. So far as any little influence I may possess is concerned, I certainly feel like helping any legitimate movement along that is for the good of all and injury of none, and by this I would in-clude consumers of our product as well as producers. A strong and representative committee was named to look into the matter and take any action they may see fit. Said committee includes the following men, all well known to Ontario beekeepers: Sibbald, Holtermann, Chrysler, Krouse, Weir, and Secretary Millen of Guelph, who is handling all correspondence in connection with the committee's work at present.

E. T. Bainard of Lambeth, Ont., is president of the Ontario Beekeepers' Association for the ensuing year, and Prof. Millen of Guelph, O. A. C., is secretary as usual.

Markham, Ont. J. L. Byer.

### HEADS OF GRAIN

Circumventing
Ants in Florida.

Here are some photos taken on Key Biscayne, near Miami, of apiaries owned

by Hugh M. Matheson. Mr. Bartholomew, formerly of the Bureau of Entomology, Washington, D. C., is in charge of the apiaries. He was in a fair way to make a total of 1000 colonies as he expected to do. I found Mr. Bartholomew fighting the Florida ants in a unique way. Each of his yards

DIFFERENT FIELDS

lot apiary next to my garage and chicken run in the heart of our city. You will notice the heavy covers on the hives. I am experimenting with them and thus far have found them of good service in this subtropical climate. I have no other shades than these covers, padded inside with about a dozen sheets of newspapers. When these covers are removed the sub-cover is only normally warm. No need to say that in the



An apiary of Mr. Matheson near Miami, Fla., surrounded by ditches that ward off the ants.

(four at that time) had ditches around with water in them even at low tide water, and all the ants inside of the ditches have been exterminated. Since ants do not like to swim the water they have to look on at the bees from the opposite shores with envious eyes. Mr. Bartholomew stated that ants are his bees' greatest enemies, which statement I can second, having lost several colonies myself thru their persistent attacks. Key Biscayne being a sand-bar island, the actions of the sea tides serves a good purpose in this instance.

I am also enclosing a picture of my back-

winter season it works admirably in keeping the bees nice and warm even in the coolest nights (but not too warm).

Miami, Fla.

A. L. Hefinger.

The Winter "What about a winter nest Nest. of empty cells for bees to cluster on?" I hear some one say. As many know, I do not for a moment believe that many empty cells are necessary for bees to cluster on; in fact, I might say that I know that such is not the case. I have tested the matter out thoroly, and I



Heavy hive covers in an apiary in Miami, Fla., that serve instead of shade.

### HEADS OF GRAIN



### DIFFERENT FIELDS

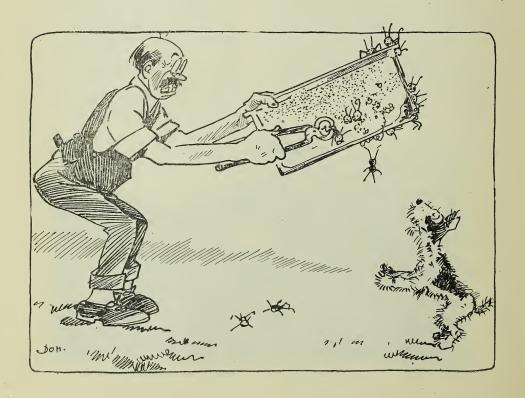
happen to know that the most of the extensive producers in Ontario entirely agree with me on this question. In the October issue of Gleanings, page 617, Mr. Demuth well says, "There is greater danger in having too many vacant cells than in having too few; " and I have always maintained that a big winter nest is the cause of more winter losses than all other causes combined.

Markham, Ontario.

### Doing Our Best.—By Bill Mellvir

(With apologies to Walt Mason.)

If every one would do his best in watching for disease, existence would be trebly blest for all the honeybees. If every bee crank would inspect his brood-combs twice a year and with his weather eye detect the first germ to appear; then swat the thing right in the neck and knock it galley west, we'd run them off the map, by heck, if each would do his best. Bacillus larvae would not eat the baby bees alive. We'd drive them out, so help us Pete, from each and every hive. No sunken cappings would we find; no toothpick roping test; no gluepot smell, the luscious kind, if each would do his best. *Bacillus pluton*, yellow beast, we'd banish from the land. No longer could it have a feast on larvae, young and bland. No larvae with Mongolian hue, there'd be, because this pest had sucked their life blood thru and thru if each would do his best. The brood diseases that we know would quickly fade away, and those who wished a slice of woe would have to search all day. No Gloomy Gus could then complain and holler like the deuce about diseases raising cain and microbes breaking loose. We'd hear less talk from grumbling hicks about the season's punk, for then they'd have to can their kicks or scrap them with the junk. The knockers would crawl in their shells and give us all a rest, for all would be a wearing bells if each would do his best.



UESTION. —If I lend my extractor to my neighhow can I clean it so that I may be sure that there is no danger of foul brood if any of his colonies happen to have either kind of the disease?

GLEANED BY ASKING Geo. S. Demuth

Vernon L. McClure.

Colora do. Answer.—The important thing in cleaning an extractor, which has been used in extracting honey stored by colonies having American foul brood, is to wash off thoroly every particle of honey from all parts of the extractor. It is safer to wash away every particle of honey, thereby removing the medium by which the disease may be transmitted, than to try to sterilize the transmitting medium. To make sure that the extractor is thoroly clean it will be necessary to rinse it out with clean water after it has been thoroly washed, in order to take away any remnant of honey that may be left after the first washing. Hot water is, of course, better than cold for this purpose, because it more readily takes up the honey. Scalding out the extractor with boiling water will not sterilize an extractor contaminated with American foul brood, but a thoro cleansing should render it safe. In the case of European foul brood there is not much danger of transmitting the disease thru the extractor.

MOVING BEES SHORT DISTANCES IN WINTER. Question .- I shall have to move my bees about a quarter of a mile. When is the best time to do it, now or later? New York. F. R. Davis.

Answer .- The bees can be moved short distances, without much danger of many going back to the old location, any time during the winter after they have been confined to their hives for a few weeks. Probably March or early April will be as good a time as any to do this successfully in your locality. They should be moved before they begin to fly freely in the spring, because if left until spring activity begins many bees would go back to their old location. They can be moved in midwinter if more convenient.

CAUSE OF HEAVY LOSS IN CELLAR.

Question .- I have been losing from 50 to 75 per cent of my colonies in the cellar. The temperature never goes below 38 degrees and never above 45 degrees. The inside of the hives is always wet What causes this trouble?

C. H. Gebhardt. Answer .- It is not possible to tell from your question what caused such a heavy winter loss. The mould and dampness which you noticed in the hives tell us that the bees were too active to winter well, and also that the temperature of the cellar was too low to prevent the condensation of the moisture within the hive. Increasing the temperature of the cellar a few degrees above

that which you had, will reduce the condensation of moisture within the hive and at the same time reduce the activity of the bees in keeping warm, thus re-

ducing the amount of water vapor which they give off. While the temperatures you mention are rather low for best wintering, the temperature alone is not a sufficient explanation of a winter loss of 50% to 75%. If your colonies were strong in vigorous young bees in the fall and were put into the cellar just after a good cleansing flight, about the only explanation of the heavy winter loss is that of inferior winter stores. No matter what temperature is maintained in the cellar, if the stores are poor the bees become active from discomfort caused by indigestible material in the stores, and of course wear themselves out rapidly, giving off much moisture as their activity is increased. Those who are most successful in wintering bees in cellars, are careful to see that their colonies are supplied with the best of winter stores, such as the best white clover honey or sugar syrup. When the bees gather inferior honey from fall flowers late in the season they store this between their clustering space and the earlier-gathered honey above, which arrangement causes them to use the last-gathered honey first. When they do this the trouble can be corrected by feeding each colony about 10 pounds of thick sugar syrup after brood-rearing has ceased but before the bees are put into the cellar. The bees will then put this syrup where it will be used first, leaving the poor stores until spring when no harm results from their use.

CHICKENS EATING BEES. Question .- Will chickens eat bees or disturb them in any way if the hives are located in the chicken run? New York Ruth Nicolls.

Answer.-Usually chickens do not eat worker bees. Sometimes a few chickens of the flock will learn to catch and eat drones, but carefully avoid the workers. In doing this they do not disturb the colonies to any extent, for in catching the drones the chickens learn to be stealthy and careful. If many chickens are confined in a small run, they sometimes learn to eat the workers, usually catching them as they are returning heavily laden with nectar. For this reason it is not advisable to have colonies of bees in a run where many chickens are confined, but when the chickens have the freedom of a large run or an orchard they do not often bother the bees.

DO PACKED COLONIES BECOME TOO WARM? Question .- After packing my bees for winter this fall I noticed some bees at the entrance far-ning their wings. The entrance is reduced to ¼ x 3½ inches. Is there danger of their becoming too warm and starting brood-rearing since they have plenty of stores? Jacob Noordiloos.

Washington.

Answer.—No, not in the fall. After brood-rearing has been suspended in the fall, a few warm days will not cause the bees to begin it again; but later, in December or January, brood-rearing may be started if the hive becomes quite warm. However, the inside of the cluster is usually not as warm in well-packed hives when the bees are broodless in winter as in unprotected hives, because the bees generate less heat to keep up the cluster temperature in the packed hives. The packing enables the bees practically to cease generating heat except during the cold spells.

CAUSE OF MOULDY COMBS AND MOISTURE IN HIVES.

Question.—What is the cause of some of the combs in my hives becoming mouldy and moisture collecting on the bottom-boards in winter and early spring?

B. Boyd.

California.

Answer.—The moisture which condenses inside the hive during cold or cool weather has been given off by the bees in the form of water vapor, water being one of the waste products given off when honey is consumed. This water vapor which is given off into the surrounding air by the bees condenses when the air comes in contact with the cold walls of the hive. Water vapor is, of course, given off in much greater quantity when the bees are more active in the summer, but at that time the hive walls are warmer, and therefore the water is not condensed within the hive but passes out of the hive thru the entrance as vapor.

SIZE OF ENTRANCE FOR OUTDOOR WINTERING.
Question.—Is it all right to close the entrances of
the hives for winter so that but one bee can pass
thru it at a time?

G. C. Morrison.

Ohio.

Answer .- The danger in making the entrance so small that but one bee can pass at a time is that it is liable to be closed up by dead bees during the winter. It will be safer to make the entrance about % by 1 inch, but it should not be made so small as this unless the hives are well packed in winter packing cases or double-walled hives. If the entrances are reduced too much when the hives are not well packed for winter, the combs often become mouldy, especially when no upward ventilation is allowed, and because of a lack of protection so many bees die that the entrance may become clogged. For out-apiaries where the bees are not seen during the winter, it is usually best to leave an entrance about % inch by 11/2 inches when the hives are well packed for winter, tho a smaller entrance may be better if the bees are in a home apiary where the entrances can be examined to see that none are clogged by dead bees.

DRONES FROM UNFERTILE QUEENS.
Question.—If a colony has a virgin queen but no drones, will it rear drones to mate with her?
Virginia. Graydon Maxwell.
Answer.—If the young queen can not

mate within a few weeks after emergence, she will begin to lay unfertile eggs which produce only drones; but after such a queen begins to lay, she does not mate even tho there are drones in abundance.

EXAMINATION OF SAMPLES OF DISEASED BROOD. Question.—Where can I send a specimen of comb for diagnosis of brood diseases?

Kentucky. Thos. Kennedy.

Answer .-- All such samples should be sent for examination to the Bureau of Entomology, United States Department of Agriculture, Washington, D. C. A piece of comb about 4 x 5 inches, containing dead larvae or pupae, should be cut out and mailed in a wooden mailing box. Tin boxes should not be used, for the comb usually moulds in transit in tin boxes, making proper examination impossible. The sample should not be wrapped before being placed in the box. A suitable box for sending samples can be had for the asking by writing to the Bureau of Entomology. It is not possible to diagnose from empty combs, and no honey should be included in the sample. The name of the sender should be on the package and the letter sent separately, not with the sample.

REEPING COMB HONEY IN WINTER.

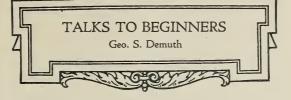
Question.—What is the best way to keep section honey during the winter months?

Sylvanus Thomas. Answer .-- Comb honey should be stored in a warm and dry place during the winter. It should not be exposed to rapidly changing temperatures and should never be exposed to freezing temperatures. If comb honey in well-filled sections is subjected to freezing temperatures, the combs will crack because of the contraction of the honey, so that when it is warmed up the best-filled sections will leak badly. If it is subjected to great variations in temperature, there will be a tendency to granulate in any type of honey which granulates readily. The honey should be kept in tightly closed cases or boxes to help retain its delicate aroma, which would otherwise be lost gradually if exposed for a long time in the open air.

CAUSE OF PIN HOLES IN CAPPINGS.
Question.—What is the cause of the small holes like a pin hole in the cappings of comb honey, from which comes something resembling sawdus?

Ohio. Clarence S. Segrist. Answer.—This is, in all probability, the work of the larvae of the lesser wax moth. You can kill these and thus stop the mutilation of the cappings of the honey by placing a small amount of carbon bisulphide in a dish or shallow pan, placing it above the honey in a tight box, so that the fumes of the carbon bisulphide can penetrate among the combs of honey. The box should be covered to help retain the fumes. If the comb honey is still in the supers, they can be piled in a tight pile and the dish placed in an empty super on top of the pile. This kills the larvae only, and, as there are likely to be eggs in the combs, a second application should be given 10 days later.

E ACH year a new lot of be ginners enter the ranks of beekeepers, and are confronted for the first time with the many problems which have



troubled beginners in beekeeping ever since the first beginner became enraptured with the wonders of the bee colony. In order better to supply the needs of this eager, questioning throng, clamoring for information, this department is begun in January this year, instead of in February as heretofore.

There are so many things which the beginner should be told during the next six months and so little space available in which to tell them, that in many cases it will be necessary to refer the reader to certain books and bulletins, which should be read carefully, thus leaving the available space in this department for the discussion of a few of the more outstanding essentials of management as the season advances.

#### Books and Bulletins.

Every beginner should provide himself with at least one of the standard books on beekeeping, but several will be better. He should also secure all of the available bulletins on beekeeping, published by the United States Department of Agriculture as well as those published by the state. The books can be had from dealers in beekeepers' supplies. The bulletins published by the Federal Government, that are still available for free distribution, can be obtained by writing to the Bureau of Entomology, Washington, D. C. Information concerning certain bulletins, which are no longer available for free distribution but which are for sale by the Superintendent of Documents, can also be obtained from the Bureau of Entomology. State bulletins can usually be obtained by writing to the State College of Agriculture. Even the catalogs, put out by dealers in beekeepers' supplies, contain much information of value to beginners since they illustrate and describe the apparatus used by beekeepers. Moreover, the catalogs enable the beginner to become acquainted with many beekeeping terms, thus making it much easier to understand the beekeeping literature. The best thing a beginner who expects to follow the department thru the season can do now is to read carefully the books and bulletins on beekeeping subjects in order that he may better follow the lessons that will be given here each month.

#### The Theory and Practice of Beekeeping.

It is the purpose of this department to connect up, as far as possible, the literature with the practice of beekeeping. As the season advances, I hope in this department to point out briefly the most important things that need to be done with the bees to secure the best results in honey, and to tell how to do them, discussing

each in advance, so that the reader will have time to read up on each topic in the books and bulletins at the proper time as the season advances.

'Most of the books on beekeeping are arranged to tell a continuous story from beginning to end and should be read thru from the beginning. Some books are arranged in parts which are more or less complete, so that consecutive reading is not necessary. The A B C and X Y Z of Bee Culture is arranged like an encyclopedia and should not be read consecutively, but should be used as a reference book since each topic is discussed in alphabetical order.

#### Obtaining the First Colony.

Some of the 1922 class of beginners already have their start in bees. Some, no doubt, have become the owners of one or more colonies by hiving stray swarms or by cutting bee-trees. Others have deliberately taken up beekeeping by purchasing established colonies of bees at the close of the season. Probably most of this year's beginners have not yet secured their bees and are wondering just what is the best way to do this.

#### Purchasing Full Colonies in Winter.

For those who wish to obtain bees now, about the only way to do it is to purchase full colonies from some beekeeper in the neighborhood. There is no need to be in a hurry about this, especially in the North, and it is usually better for beginners to wait until the bees begin to fly freely in the spring before purchasing any colonies.

Bees can be hauled home, however, in the middle of winter if necessary, without harming them, especially if they are transported in a sleigh or an automobile, in order that they shall not be so greatly disturbed by the jolting of the hive. The entrance should be closed with a piece of wire cloth, so no bees can get out of the hive, and the hive parts (bottom, cover and body) should be cleated together by nailing on three or four pieces of lath to prevent the hive coming apart in transit. The screen should be removed when the hive of bees is finally located where it is to stay. If the weather is cold, the bees will leave the screen soon after the disturbance of moving is over, so that none will come out when the screen is taken off.

Be Sure That the Bees Have Enough Honey.

For those who already have their bees the most important thing, if not already done, (Continued on page 43.)

ESSRS. Henager, Anderson and Terriberry of the Utah Beekeepers' Association are in charge of arrangements for the meeting of



the American Honey Producers' League which will be held Jan. 30 and 31, 1922, at Salt Lake City. Every beekeeper, whether a member of the League or not, is urged to be present.

The meeting of the South Dakota State Beekeepers' Association will be held at Mitchell, S. D., on Feb. 13 and 14, 1922. J. C. Tjaden, Vermilion, S. D., is secretary.

The meeting of the North Carolina State Beekeepers' Association will be held in Raleigh at the State College on Jan. 18 and 19. Write J. E. Eckert, State College Station, Raleigh, N. C., for particulars.

The annual meeting of the State Pennsylvania Beekeepers' Association will be held on Jan. 24 and 25 at Harrisburg. The dates selected are dates during the Pennsylvania State Farm Products Show.

The Oregon State Beekeepers' Association will meet at Pendleton, Oregon, Jan. 26 and 27. The leading subjects up for extensive consideration are disease control and marketing. All beekeepers of the state and neighboring portions of Washington and Idaho are invited to attend and make this meeting a rousing success. H. A. Scullen, Corvallis, Oregon, is secretary.

#### THE MILLER MEMORIAL LIBRARY.

The response to the announcement of this committee that the fund collected from Doctor Miller's beekeeping friends would be used to establish a memorial library of beekeeping has been gratifying. As has already been announced, the original fund is not to be spent for books, but only the income shall be used for this purpose; so that in contributing to this fund, beekeepers are taking part in the establishment of a library to last so long as there are bees and flowers. With this plan it is obvious that as time goes on this library will be increasingly valuable. It is planned to put this library into the care of some one of our leading educational institutions so that the proper care of the books and journals will be positively assured. It may further be pointed out that this memorial library will grow not only from books purchased from the income of the fund but from books and journals contributed by individual beekeepers.

Several beekeepers' organizations have already contributed liberally to this fund. In

most cases the names of individuals contributing have been sent in, so that in the published list of contributors these sums do not appear as association con-

tributions. As there are many meetings to be held in the next few months, the committee would urge that at each one the importance and value of this library be set forth and that every effort be made to enlist the support of beekeepers in attendance. In each case the funds collected should be transmitted thru the secretary or some other person indicated to the chairman of this com- $_{
m mittee.}$ 

(Signed) C. P. Dadant, E. R. Root, E. F. Phillips, E. G. LeStourgeon, B. F. Kindig.

#### CHANGES IN PERSONNEL AT MEDINA.

The importance of the business of The A. I. Root Company of California, a subsidiary company located at Los Angeles and organized under the laws of California, had so increased that it became necessary to release several of the executives of the home plant at Medina, to take full charge of the Pacific Coast business and become residents there. Accordingly, A. L. Boyden, for a long period director of sales at the home office at Medina, was chosen as ably fitted by long experience to take over the Coast business, and he took active charge there the middle of December. He has selected as his assistants his two brothers, L. W. Boyden, formerly sales manager of bee supplies for the company at Medina, and R. W. Boyden, formerly purchasing agent for the home plant. In the meantime Mr. J. T. Calvert, who has successfully conducted the business in California, returns to Medina to take up his duties in connection with general administrative work, especially that relating to the branches and subsidiary companies. Both A. L. and L. W. Boyden have transferred their holdings from the Medina company to the California company, and will control the latter company and make their permanent homes at Los Angeles. The A. I. Root Company of Medina still retains a large interest in the California company. R. W. Boyden will become manager of the San Francisco branch of the California company, succeeding H. J. Bostwick, who recently resigned to accept the management of one of the largest health sanitariums in America. The A. I. Root Company of Medina, with A. I. Root continuing as president, E. R. Root as vice-president, H. H. Root as general manager, and J. T. Calvert as treasurer, will not change its personnel or organization except that the sales management of both bee supplies and Airline honey will come under the direct supervision of the general manager, H. H. Root.

AYthe Lord be praised, that just now the mothers of our Nation (and I hope and pray, the mothers of the great wide world) are receiving more recognition than ever before since the world began. Somebody has said, "The hand that rocks the cradle is the hand that rules the world: '' and I thank the Lord

it seems to be coming true. I want to tell you now of one mother I have known very intimately for the past 65 years.

I was one of seven children, three older and three younger. When I was about 15 father moved back on to a farm in Medina County, that he had chopped out of the wilderness years before. In going to the country school there, a sister younger than I found a schoolgirl friend; and while I was off at school in Wellsville, on the Ohio River, she wrote me about this new schoolgirl friend. Let me explain here that I was a weakly child and usually played with the girls rather than the boys, because I couldn't stand the rough outdoor sports, and this younger sister was my particular friend and champion thru early life. She wrote that she had found the best girl for me for a wife, in the whole wide world. Little did I realize then the wonderful truth she was unconsciously telling. When I was about 17 I came home, and in due time met my sister Sara's girl friend, Susan Hall. came across the water from "Merrie England" when 8 years old. There was a ruddy freshness on her smiling face that appealed to me from the very first; and, dear friends, I caught a glimpse of that wonderful charm on the dear face, as it lay cold in death but a few days ago.

I think Sara had told her what she had written me before I came; and so, of course, there were becoming blushes on that childish face when we first met.

It seemed to be, almost, "love at first sight," and I am afraid both of us came near forgetting for a time the dear friend and sister who brought us together.

But "Suc," even if she was only 15, had good sense enough to call a halt. She said something like this:

"Amos, my good father has worked hard for the means of sending me to the high school, and I am working hard to get an education. Your frequent visits are a serious interruption. Neither of us is old



It is not good that man should be alone.—GEN.

Therefore shall a man leave his father and his mother, and shall cleave unto his wife: and they shall be one flesh.—GEN. 2:24.

And God blessed them, and said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it.—Gen. 1:28.

Her price is far above rubies .- PROV. 31:10.

enough.', pleaded for an engagement, but she still said, "Wait until we are both older." (I have already told you in former Home papers about this.) I had been all this time experimenting with chemistry and electricity, and I decided I would go out in the world, and earn a reputation that even she would recognize. In

due time handbills announced that "Prof. A. I. Root'' (only 17, mind you) would deliver a lecture at a certain schoolhouse, on chemistry and electricity; admission, 10 cents; children and scholars, 5 cents. I was gone two or maybe three years, and came home fairly well dressed, and with a little money in my pocket. I think Sue was fairly well pleased with it all, except the word "Professor," when I had hard-ly a common school education. She was then 18, and I was 20. "Praise the Lord." from that time on, every move of my busy life was subject to her inspection and approval. While off on these trips I paid a jeweler \$25.00 to give me instruction in the repair of clocks and watches. Of course this would amount to but little, had it not been for my skill acquired in constructing electrical apparatus. Altho there were two jewelers in Medina already doing a fair business, I started a third store, and in a few years I had the only jewelry store in town. The other two couldn't stand such opposition (in the way of zeal to please customers) as I gave. Before we were married that same devoted sister and her bosom friend came into my humble store and gave it a "house cleaning," and gave me some advice in regard to personal habits and neatness. When we were talking of marriage an aunt of Sue expressed a fear that I would never have "vitality enough to support a wife." I think it was meant kindly, and it really did us both good. I decided then and there we would show the good relative.\* In due time I began to sell goods, as well as repair clocks and watches. I wanted a trademark to show cost, as well as selling price. A sentence is usually chosen containing 10 letters, no two alike. This was my trademark: "My own Susie." There are two letter s's, but one is a capital, and

<sup>\*</sup>Years after, when I not only supported a wife but gave work to a hundred or more, this good woman became a widow and supported herself for years by making bee-veils for The A. I. Root Company.

that makes it all right. No human being but myself knew my trademark. I think not even the dear sister I have mentioned who clerked for me. After marriage both wife and sister helped in the store. With two of God's precious jewels near by me for helpers, how could I ever have "gone

wrong?'', See last text.

While my "hobby" was electricity and mechanical work, Mrs. Root's was making a "home." Not only a neat, tidy, sanitary home, but a godly home. Before I recognized God's call, two children were born, a boy and a girl. Just as soon as they were fairly able to go to Sunday school, they were neatly attired and on hand. Well do I recall the Scripture text, repeated after the mother by "lisping tongues." Later, when the boy was old enough to go to day school, he came home using words he had never used before. When questioned by the careful (and prayerful) mother he said the boys at school all used such words. She gave him a careful talk, and next morning bid him good-bye outside the gate, with his promise to "report" when he came home. At night she was again "outside the gate," waiting his return. For some days his reports were not always all that she had desired and prayed for; but such careful work could not fail, and finally he welcomed his mother with an honest, manly, bright face, saying day after day "no more bad words." The rest of the five children were watched and trained in the same way. Altho she never had the opportunity, she insisted there should be no lack, on their part, in the way of finished scholarship. She not only visited the schools and kept in touch with their teachers, but went over their lessons with them when needed. When the older boy was about 15 he was so much interested in electricity and mechanics (like his father), he announced he wasn't going to school any more; he was going to be a machinist. Mother had planned sending him to Oberlin College. After considerable discussion, I think the young man for the first time in his life used the word "won't" to his mother. At this crisis, I was about to interfere but she waved me aside with "Father, this is my job. I can handle the young man without help."

He went to Oberlin (of course he did) and came home often with high honors, to report to the good mother, just as he did in childhood about the "bad words."

The three girls and the other boy had the same watchful care. The youngest daughter, Carrie Belle, while at High School, had trouble with her eyes. The best doctors agreed they must not be used to read for quite a period. Must her education come to a halt? The mother said not. She took Carrie's books, Latin, ancient history, and I don't know what else, and mastered the lessons so Carrie came off with high marks, without using her eyes at all. Did I too help? I will tell you how I helped. When

Mrs. Root got so much interested in her ''lessons,'' she had to tell me about it. When I was trying to sleep I would sometimes say, ''Dear wife, I am afraid you will have to 'let up,' for I am so tired, I must get to sleep.

Today is Dec. 6. Mrs. Root was taken from this world, with scarcely a minute's warning, a week ago today. Oh, what would I give now for the privilege of listening to her dear voice once more, no matter what she might have to say! It has been the hardest blow of my life. I have prayed, while the blinding tears shut out vision, as I never prayed before; and, bless the Lord, I have learned lessons that nothing else could teach me. For a year past she has been telling us all she was not going to live long. Just the night before she died, we both woke up and had a long talk in regard to the matter of separation and that one of us must go first. She declared she was the one, and planned who should care for me in my old age. The next morning she insisted on getting up early and starting the washing. On page 780, Decem-ber issue, I mentioned the work of the storm on our best room. I finally found a mason, and she was very much pleased to have the ceiling "made good." I suggested leaving the mopping of the floor until next day, but she told a neighbor after everybody got out of the way, after supper, she would mop it. I mention this to show she had her usual health and strength, and especially her zeal to have things tidy and neat, before retiring. Her helper went away about 5 o'clock, after scrubbing the floor and leaving the room in order. I got up from the supper table shortly after, to go up town on an errand. She finished her supper evidently and carried the dishes out to the kitchen table. When I came in, a few minutes later, with an armful of groceries, I found her at full length on the kitchen floor. Her face looked perfectly natural, and there was no evidence of any struggle for life, or of any pain. The doctor said she must have died instantly.

Just one more incident before closing this long Home Paper. Just a few days before her death, we had some discussion in regard to the way to prepare and cook roselle (the Florida cranberry). She objected to my way, and I got a little, say, "vehement." I left hurriedly and started out to my work Something (was it the Holy Spirit?) bid me go back and apologize; but I was still a little contrary, and said to myself it was only a small matter any way, and pushed on. But that "still small voice" whispered, "You may recall this later on." I dropped my tools, hastened back and said, "Sue, please forgive me for being rude and unkind and I will try to do better."

She put her arm around my neck and, resting her dear head on my shoulder, replied:

"And, oh, dear husband, forgive me for being so cross and unreasonable. I don't know what is the matter of me lately. I have cried and cried over the unkind way I have treated you, especially because you take it so meekly. Please forgive me, and I will try, oh so hard, to do better.'' She imagined she had been difficult to get along with. The truth was she was suffering from the malady that took her away, and I didn't know it. Suppose I had not heeded that gentle voice of conscience, and only recalled it after her sudden and unexpected death. I have had at least one experience along that line; and had I not made that apology, the sorrow and remorse would have doubtless followed me until the day of my death. Ye fathers and mothers, whose eyes rest on these pages, take warning ere it is too late.

Blessed are the dead which die in the Lord from henceforth: Yea, saith the spirit, that they may rest from their labors; and their works do follow them.—REV. 14:13.

#### ONE HUNDRED DOLLARS' WORTH OF HONEY FROM ONE COLONY IN ONE SUMMER.

Over \$50.00 Worth of Honey from a Two-Pound Package of Bees.

Now perhaps you think I am going to say that the above was done here at Medina; but it was accomplished by a good friend of mine who lives at Jamestown in North Dakota. The two-pound package that did the big stunt did not come from Medina either. It came from our good friend Ault. He is the one who got out the new package, as you will notice by his advertisement, for shipping bees long distances. Perhaps you will wonder if I am not going to add that the honey came from the new Hubam clover; but I am compelled to say that it did not. See the letter below from our good friend Bennett:

I put in about 45 acres of the white biennial sweet clover all within the city limits and within one-half mile of my home. In fact, my home and this field are both on the same quarter section of land, You will perhaps remember that my home property lies along the river for about a block and that Klaus Park skirts the other bank and that just beyond the park lies the field seeded to sweet clover; part in the valley, part on the hill.

I have 40 swarms of bees now and they seem to be doing very well considering that part of them were shipped in, rather late, from Texas. Last year I had a colony that cast one swarm and the two produced 360 pounds of comb honey, and as I sold all the honey I wished to for from 40 to 50 cents a pound, it made a profit hard to beat. One two-pound package produced 160 pounds of comb honey, which is not bad.

Jamestown, N. D., June 13, 1921.

When I was out on that trip to see the

When I was out on that trip to see the electric windmills at Wyndmere, N. D., while

visiting friend Williams, who has one of the mills, he gave me friend Bennett's address, and I called on him. May the Lord be praised for what has been accomplished, not only with sweet clover but in the way of making this land of ours a "land flowing

with milk and honey." And you will notice we get milk and honey "all the same," even up as far north as the Dakotas and Canada, where they used to say, a few years ago, that it did not pay to keep bees because there was nothing for them to get honey from.

#### Prohibition Up To Date.

In the Sunday School Times of October 30, Miss Margaret Wintringer gives us one of the best world-wide temperance articles I have seen. If possible, get the Times and read it; then go back and read it again. I clip from it two paragraphs, as follows:

Nearly forty years ago the children marched thru the streets of Chicago, singing "Saloons must go." I shall never forget that day, nor the face of Frances E. Willard, who wrote the words of the song, as she heard it sung. It was of one seeing a vision. She was seeing not the sneer on the face of some of the unsympathetic spectators; she saw the promised land. Not long after, an Illinois sliquor association demanded and secured the discharge of the man who had dared to teach the children of a big Illinois city to sing "Saloons Must Go," for a State W. C. T. U. Convention. The saloon was learning the menace of the children's song! Soon Luther Burbank, one of the nation's greatest scientists, vised the words of the children's song with the message, "Sooner or later, the saloon or the race must go."

War Prohibition went into effect July 1, 1919. Its enactment saved the nation one hundred and eighty million dollars in money, and greatly lessened the difficulties of demobilization. Under war prohibition thousands of boys returned to their PROHIBITION A WORLD EYE-OPENER.

prohibition thousands of boys returned to their

homes in safety.

#### Talks to Beginners. Continued from page 39

is to find out if they have enough honey to carry them thru the winter. By weighing the hive and contents, then substracting the weight of a hive filled with empty combs and allowing five to ten pounds for the weight of the bees and the pollen, the approximate amount of honey can be determined. If they have less than 20 pounds of honey at this time, they are in danger of starving before much nectar is available in the spring, and if they have only a few pounds they are in danger of starving at any time.

Feeding bees that are short of honey during the winter in cold climates is difficult, so it is important to see that each colony has enough before the arrival of cold weather in the fall. Beginners, who find colonies in danger of starvation in winter, can save them by laying a block of hard candy, made of granulated sugar, on top of the combs just over but touching the cluster of bees, . then covering the hive snug and warm with an old blanket. Cubes of sugar can be fed in this way in winter.

Colonies should not be disturbed by feeding or any other way in winter, unless necessary. Colonies that have 10 to 15 pounds of honey should not be fed until later. They usually do not eat more than two or three pounds of honey per month during midwin-

#### Classified Advertisements

Notices will be inserted in these classified columns for 50c per line. Advertisements intended for this department cannot be less than two lines, and you must say you want your advertisement in the classified column, or we will not be responsible for errors. Copy should be received by 15th of preceding month to insure insertion.

### REGULAR ADVERTISEMENTS DISCONTINUED IN GOOD STANDING.

(Temporary advertisers and advertisers of small lots, when discontinued, are not here listed. It is only regular advertisers of regular lines who are here listed when their advertisements are discon-

nere isted when their advertisements are discontinued when they are in good standing.)

R. Selwyn Wilson, I. J. Stringham, H. F. Williams. W. B. Crane, R. C. Wittman, Edw. A. Winkler, The Scott Apiaries, Howard Townsend, Walter C. Morris, O. H. Schmidt, E. D. Townsend, J. E. Harris, W. A. Hunter, Chas. Israel Bros. Co., Geo. E. Kramer, Wm. Galloway Co., Youth's Companion.

#### HONEY AND WAX FOR SALE

FOR SALE—Honey in 5 and 60 lb. cans. Van Wyngarden Bros., Hebron, Ind.

FOR SALE—Dark clover honey from the capping melter. J. F. Moore, Tiffin, Ohio.

FOR SALE—Buckwheat honey in 60-lb. cans. Bert Smith, Romulus, N. Y.

FOR SALE—Buckwheat honey in 5-lb., 10-lb., or 60-lb. cans. H. B. Gable, Romulus, N. Y.

FOR SALE—Two tons amber baking honey. F. W. Luebeck, R. D. No. 2, Knox, Ind.

BUCKWHEAT honey, two 60-lb. cans to case, for \$10.80. J. G. Burtis, Marietta, N. Y.

FOR SALE—Clover, amber, and buckwheat honey. 60-lb. cans and 5 and 10-lb. pails. C. J. Baldridge, Kendaia, N. Y.

FOR SALE—Choice clover honey, 15c; buckwheat, 10c per pound. Two 60-lb. cans to case, f. o. b. here. Wm. Vollmer, Akron, N. Y.

CLA-FO-NY-QUALITY buckwheat honey (liquid or crystallized), 5-lb. pails, 65c each, 15 to case. Clarence Foote, Delanson, N. Y.

FOR SALE—A limited quantity of buckwheat honey (extracted). Single case lots, 10c. The Woodward Apiaries, Clarksville, N. Y.

FOR SALE—Buckwheat honey in 60-lb. cans, one can to case, liquefied, \$6; 2 cans to case, granulated, \$10.80. John J. Lewis, Lyons, N. Y.

FOR SALE—Spanish needle-heartsease honey, fine body and flavor. Write for price. State quantity wanted. F. W. Luebeck, Knox, R. D. No. 2, Ind.

FOR SALE—12,000 lbs. of choice white clover honey in 60-lb. cans at 15c per lb., f. o. b. Brooksville, Ky. Sample 25c. W. B. Wallin, Brooksville, Ky.

FOR SALE—White honey in 60-lb. cans, also West Indian in 50-gal, barrels. Samples and price or request. A. I. Root Co., 23 Leonard St., New York City.

FOR SALE—Extra choice extracted white clover honey, put up in new 60-lb. cans and 5-lb. pails. Sample 20c, same to apply on first order. David Running, Filion, Mich.

EXTRA fancy well-ripened clover honey in new cans and cases. Per case, 120 lls. net, \$15.50. Sample 20c. Edw. A. Winkler, R. D. No. 1, Joliet. Ills.

FOR SALE—Clover, basswood or buckwheat honey, comb and extracted, by the case, ton, or carboad. Let me supply your wants with this fine N. Y. State honey. C. B. Howard, Geneva, N. Y.

FOR SALE—A very good grade of buckwheat comb honey. Will average 22 lbs. to the case of 24 sections. Only 140 cases left. \$4.25 per case f. o. b. here. Edgar Williams, Pierpont, Ohio.

"THE OLD KY." clover honey; white, well-ripened, rich and thick; 60-lb. cans, 14c f. o. b. here; 10-lb. pails, \$2.00, delivered to third zone. Sample 20c. Adam Kalb, Brooksville, Ky.

FOR SALE—Extracted honey, clover, 15c per pound; amber, 10c; two 60-lb. cans to case; amber in barrels, 8c; in five-case or five-barrel lots, 5% off; in ten-case or ten-barrel lots, 10% off. H. G Quirin, Bellevue, Ohio.

HONEY FOR SALE—In 60-lb. tins, water-white orange, 14c; water-white clover or white sage, 13c; extra L. A. sage, 11c; N. Y. State buckwheat, 10c, for immediate shipment from New York. Hoffman & Hauck, Inc., Woodhaven, N. Y.

FOR SALE—7000 lbs. fine quality white sweet clover honey, put up in good clean second-hand cans. It is well ripened and rich, and the price as long as it lasts is 12c per lb. in 60-lb. cans, two cans to the case. Try it. Joe C. Weaver, Cochrane, Ala.

FOR SALE—About 30 cases light golden honey. Mostly clover. Single case (120 lbs.), 12c per lb., 2 or more cases, 11½c per lb., 5 or more cases, 11c per lb. 10 cases at 10½c per lb. This honey is in new 60-lb. cans. All prices f. o. b. Merritt. J. H. Corwin, Merritt, Mich.

RASPBERRY HONEY—Blended with a slight amount of willow-herb honey, two of the best honeys of northern Michigan. It was all thoroly ripened by the bees. It is good thick body, and fine flavor, none better for table use. It is put up for sale in 60-lb. tin cans. Price for two cans in a case, \$18.00; for one can in a case, \$9.50. Sample by mail, 20c. which may be applied on purchase of honey. Elmer Hutchinson & Son, Lake City, Mich.

#### HONEY AND WAX WANTED.

WANTED—Extracted clover honey. L. K. Hostetter, Lancaster, R. D. No. 5, Pa.

WANTED—Honey, section, bulk comb and extracted. Elton Warner, Asheville, N. C.

BEESWAX WANTED—For manufacture into SUPERIOR FOUNDATION. (Weed Process.)
Superior Honey Co., Ogden, Utah.

I AM in the market for white clover, basswood, or amber honey. Send sample and quote me your lowest prices delivered f. o. b. Preston. M. V. Facey, Preston, Minn.

WANTED—To buy best quality white honey in 5-lb, pails and 60-lb, cans. Also No. 1 quality buckwheat. Quote best price in first letter. L. S. Griggs, 711 Avon St., Flint, Mich.

WANTED—Shipments of old combs and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendered. The Fred W. Muth Co., Pearl and Walnut Sts., Cincinnati, O.

WANTED—Beeswax. We are paying 1 and 2c extra for choice yellow beeswax and in exchange for supplies we can offer a still better price. Be sure your shipment bears your name and address, so we can identify it immediately upon arrival, and make prompt remittance. The A. I. Root Co., Medina, Ohio.

#### FOR SALE.

ROOT'S GOODS AT ROOT'S PRICES. A. W. Yates, Hartford, Conn.

FOR SALE—10-frame hive-bodies in flat. C. H. Hodgkin, Rochester, Ohio.

BEEHIVES made to order, \$2.50. Order now. E. E. Salge, Skidmore, Texas.

HONEY LABELS—New designs. Catalog free. Eastern Label Co., Clintonville, Conn.

FOR SALE—A full line of Root's goods at Root's prices. A. L. Healy, Mayaguez, Porto Rico.

YOU will make no mistake in ordering your comb foundation of E. S. Robinson, Mayville, N. Y.

CYPRESS beehives, supplies and genuine Hubam clover seed for sale. J. Tom White, Dublin, Ga.

PORTER BEE-ESCAPES save honey, time and money. Great labor-savers. For sale by all dealers in bee supplies. R. & E. C. Porter, Lewiston, Ill.

FOR SALE — "SUPERIOR" FOUNDATION, "quality unexcelled." Let us prove it. Order now. Superior Honey Co., Ogden, Utah.

FOR SALE—39 Cary bodies, empty, with bottom-boards, covers and inner covers, at \$1.00 each. Ancel F. Marble, Center Cambridge, N. Y.

ROOT'S BEE SUPPLIES—For the Central Southwest beekeepers. Beeswax wanted. Free catalog. Stiles Bee Supply Co., Stillwater, Okla.

FOR SALE—One No. 15 and one No. 17 Root two-frame automatic extractors. Want a power machine. Also a section fixer. Ed. Mrovka, Collinsville, Ills.

FOR SALE—Pure Louisiana sugar cane syrup in ten-lb. can at 80c per can f. o. b. Bordelonville, La. Samples free. A. M. & L. S. Firment, Moreauville, La., R. F. D. No. 1.

FOR SALE—Good second-hand 60-lb. cans, two cans to a case, boxed, at 60c per case f. o. b., Cincinnati, Terms cash. C. H. W. Weber & Co., 2163 Central Ave., Cincinnati, Ohio.

GUMMED labels of all sorts—as low as 60c per 1000—from your own copy. We also print for beekeepers at about half prices usually charged. Will open account and let payment be made on receipt of goods. Roessler, Roseville, N. J.

SWEET CLOVER hullers and scarifiers combined, hulls and scarifies at the same time. Two screens included. If not satisfied your money returned. Price, \$3.50 each, postage extra. S. Rouse, Ludlow, R. D. No. 2, Ky.

## WANTS AND EXCHANGES.

ROYAL typewriter, \$65.00. Will trade for honey, queens or offer. E. A. Harris, Albany, Ala.

SOME old, rare or valuable books for sale, or exchange for honey, etc. G. R. Lumsden, Norwich, Conn.

I WILL give packages of bees for a good bird or quail dog, about a year old, and dog must be trained. I would prefer a bitch, and must have the dog on trial. Can furnish best of references. E. J. Beridon, Jr., Mansura. La.

FOR SALE OR TRADE FOR BEE SUPPLIES —One three-horse three-phase 60-cycle, 220-volt motor, good as new, with GE push and pull switch. One 4-frame Root automatic reversible power honey extractor, used three days, good as new. 400 Root chaff division boards, nailed up. Never used. Fred A. Robinson, Nampa, Box 322, Idaho.

WANTED-A two-frame reversible extractor. State price. Dr. T. E. Griffiths, Mogadore, Ohio.

WANTED—Old combs and cappings for rendering on shares. Our steam equipment secures all the wax. Superior Honey Co., Ogden, Utah.

WANTED-50 to 100 colonies of bees. Box or frame hives. 100 lbs. medium brood foundation. Charles Schilke, Matawan, R. D. No. 2, N. J.

EXPERIENCED beekeeper wants to keep bees on shares. For particulars, write W. R. Revel, Vernon, Box 561, Texas.

BEESWAX wanted. Old combs (dry) and cappings for rendering. Also wax accepted in trade. Top market prices offered. A. I. Root Co. of Iowa, Council Bluffs, Iowa.

FOR SALE—Bee supplies, bee books, bee papers, cheap, or would exchange for good incubator or pure-bred white Leghorn chickens. J. O. Garman, Glasgow, R. D. No. 4, Ky.

OLD COMBS, cappings or slumgum wanted for rendering by steam press process. We pay cash for wax rendered, trade for supplies, or work it into foundation. W. T. Falconer Mfg. Co., Falconer, N. Y.

WANTED—10-frame standard hives and equipment, empty combs (wired) and bees (nearby). To interest must be warranted disease-free, good condition and priced right. L. W. Smith, Madison, N. J. (or 56 William St., New York City).

OLD COMBS WANTED—Our steam wax-presses will get every ounce of beeswax out of old combs, cappings or slumgum. Send for our terms and our 1922 catalog. We will buy your share of the wax for cash or will work it into foundation for you. Dadant & Son, Hamilton, Illinois.

WANTED—To exchange a two-gang 'or four-horse' riding breaking plow good as new. Every-thing complete with new points. "Emerson make." Will take in exchange Italian bees, nuclei with queens or supplies. Bees to be delivered in spring. Would like to buy small place near Mennonite Church suitable for apiary. What have you? J. C. Provins, Centerburg, Ohio.

## SEEDS AND PLANTS.

"We will not guarantee the purity of any seed advertised nor any nursery stock, as nurserymen ordinarily will not do this themselves; but any seedsman or nurseryman advertising in our columns will have given us excellent references in advance, and our readers may consider this fact in their favor."—From Our Guarantee and Advertising Conditions.

HUBAM seed, northern grown, scarified, oz. 20c; 8 oz., \$1.00. M. R. Thompson, Malung, Minn.

PURE Hubam or white annual sweet clover seed, oz., 25c; lb., \$2.00. L. B. Harber, Rt. 1, Mt.

GUARANTEED NORTHERN GROWN HUBAM—Scarified and recleaned seed, \$2.00 a pound. Reduction on quantities. Blair Brothers, Ames, R. D. No. 4, Iowa.

HUBAM—We are the Bam (balm) for high prices. Sell Ames, Iowa, strain, obtained from Henry Field Seed Co. Pure, unmixed, 1 lb., \$1.45; 10, \$13.50, delivered, prepaid. Chas. B. Phelps, Shawnee, Okla.

FOR SALE—Rocky Mountain bee plant seeds. Wonderful honey plant, also fine chicken feed, nice flowers. Best colony gathered over 200 lbs. of honey from it. Price \$1.00 per pound, postpaid. S. M. Campbell, Flagstaff, Box No. 142, Ariz.

HUBAM—The annual white blossom sweet clover. Guaranteed genuine Hughes strain, produced under cultivation. Cleaned and scarified seed. Cultures for inoculating will be furnished at cost. 14,500 seeds, 25c; lb. \$2.00. Lloyd A. Sheffield, East Lansing, Mich.

"GLEANINGS" has copy of certificate, Henry Field Seed Co., by Henry Field, Pres., attesting my purchase of seed, Feb. 10, 1920, and Jan. 11, 1921. No other sweet clover grown near ours. References gladly furnished. Note our delivered prices. 1 lb., \$1,45; 10, \$13.50. Chas. B. Phelps, Shawnee,

"I, the undersigned, do solemnly swear, that Hubam clover seed, sold by us, was cultivated in rows, hulled and recleaned under my personal supervision with our own machinery; that we obtained our original seed from Henry Field Seed Co. at \$8.00 per pound; and that our seed is pure and unmixed from any source and true to name.—Chas. B. Phelps." Affidavit with each shipment. No weed seeds, none moldy, none better at any price. 1 lb., \$1.45; 10 lbs., \$13.50 delivered. Chas. B. Phelps, Shawnee, Okla.

#### BEES AND QUEENS.

FOR SALE—Italian queens, nuclei and packages. B. F. Kindig, E. Lansing, Mich.

Italian queens, \$1.00 each. HARDY Lauver, Middletown, Pa.

TRY ACHORD'S BEES and QUEENS. Price list by return mail. W. D. Achord, Fitzpatrick, Ala.

QUEENS—Look for my classified advertisement in February Gleanings. G. H. Merrill, Greenville, R. D. No. 5, S. C.

FOR SALE—Carload bees, nuclei, pound packages, full colonies. See our ad elsewhere. The Stover Apiaries, Mayhew, Miss.

PHELPS GOLDEN QUEENS will please you. Mated, \$2.00; 6, \$10.00; or \$18.00 a doz. C. W. Phelps & Son, Binghamton, N. Y.

DON'T forget, a card will bring our descriptive circular and price list of our Italian queens, drones and bees. R. V. Stearns, Brady, Texas.

BEES AND QUEENS from my Carolina apiaries—progeny of my famous Porto Rican pedigreed breeding stock. Elton Warner, Asheville, N. C.

A POSTAL will bring you my 1922 descriptive booklet and price list. Booking orders now. Write J. B. Hollopeter, Queenbreeder, Rockton, Pa.

QUEENS AND BEES—High grade, day old and untested in Thompson safety cages. 2-lb. packages. Circular ready. James McKee, Riverside, Calif.

FOR SALE—150 colonies bees in standard 10-frame hives. Located in best sweet clover section of Alabama. J. J. Bennett, Crystal Springs, Miss.

WE are booking orders now for colonies and ackages of Italian bees. Satisfaction guaranteed. Vrite for prices. Van Wyngarden Bros., Hebron, Write for prices. Ind.

WE are now booking orders for spring delivery of our queens and package bees. Write us your wants and ask for prices Graydon Bros., Green-ville, R. D. No. 4, Alabama.

QUEENS OF QUALITY for 1922. Three-banded Italians only. After April 15, untested, \$1.25; tested, \$2.00. Satisfaction guaranteed. P. M. Williams, Ft. Deposit, Ala.

FOR SALE—500 colonies in 4 yards, with power extractor, easy terms, near English colony. Very healthful, wonderful flows, local market. M. C. Engle, Herradura, Cuba.

FOR SALE—Package bees for spring delivery, three-banded strain, bred for business, 20% cash books your order. Safe arrival and satisfaction guaranteed. A two-pound package of bees and select untested queen for \$5.00; 25 or more for \$4.75 each. Write for prices on larger lots. Caney Valley Apiaries, J. D. Yancey, Mgr., Bay City, Teyas Texas.

FOR SALE—Early package bees, nuclei and queens. We handle 1800 colonies. Shipping sea-son March 1 to June 1. Loveitt Honey Co., Phoe-

BEES BY THE POUND — Also QUEENS. Booking orders now. FREE circulars giving details. See larger ad elsewhere. Nueces County Apiaries, Calallen, Texas, E. B. Ault, Prop.

FOR SALE—Two-pound packages three-banded Italian bees with queens, \$5.25 each; 10 or more, \$5.00 each. One-fourth down books order. Satisfaction is my guarantee. J. J. Scott, Crowville, La.

FOR SALE—Golden Italian queens ready May 1. 1 queen, \$1.25; 6, \$6.50; 12, \$12.00; 100, \$85.00. Virgins, 50c each. Write for prices of nuclei. W. W. Talley, Greenville, R. D. No. 4, Ala.

FOR SALE—3000 pounds of bees for spring de-livery at pre-war prices. Rosedale Apiaries, Big Bend, La., J. B. Marshall and H. P. LeBlanc,

MY 1922 queens for sale. The Big Yellow kind, none better. Satisfaction guaranteed or money back. Price, \$1.00 each, or \$80.00 per 100. E. F. Day, Honoraville, Ala.

COLCRADO HEADQUARTERS for QUEENS—Northern-bred leather-colored three-band Italians. Safe arrival guaranteed. Booking orders now for June 1st delivery. Send for circular and price list. Loveland Honey & Mercantile Co., Loveland, Colo.

THREE-BAND packages, bees, queens, and nuclei, April and May delivery. Special orders solicited. Write for prices and terms. Safe arrival and satisfaction guaranteed. Tupelo Honey Co., Columbia, Ala.

ORDERS booked now for spring delivery, 3-frame nucleus and queen, \$6.50; select tested, \$7.50. Dr. Miller's strain. No pound packages. Low express rates and quick transit north. 10% with order. S. G. Crocker, Jr., Roland Park, Baltimore, Md.

IF GOOD bright Italian queens are wanted by return mail, send your order to M. Bates, Greenville, Ala. Price, \$1.00 each; \$10.00 per dozen; \$75 per 100. Pure mating, safe arrival and satisfaction guaranteed.

FOR SALE—10 colonies of bees in Buckeye double-walled hives. Cowan two-frame extractor and 10 extracting supers and combs, excluders and complete outfit in excellent condition. H. Schwering, 1533 S. 16th St., Philadelphia, Pa.

FOR SALE—275 colonies of bees, mostly in 10-frame hives, combs built on full sheets, wired and brace-wired. Young Italian queens, 1 Root eight-frame power extractor and engine, 2 tanks and capping melter. Fine leased location, orange, sage and wild buckwheat within easy reach. L. J. Ray, 271 E. 8th St., Claremont, Calif.

WE are now equipped to handle your early spring orders for package bees, and Italian queens, especially bred for the production of honey. Prices will be in accord with the reduction in material and labor. Safe arrival guaranteed. Write for prices and terms. Sarasota Bee Co., Sarasota, Fla.

QUEENS, package bees and nuclei. Booking orders now for 1922. Shipping begins March 15. Our early queens ready for northern queenless colonies at unpacking time. One untested, \$1.50; one select untested, \$1.70. Circular free of our pedigreed strain on request. Dr. White Bee Company, Sandia, Texas.

CALIFORNIA ITALIAN QUEENS, the old reliable three-banded stock that delivers the goods. Every queen actually LAYING before being caged, and fully guaranteed. I also guarantee safe arrival. SPECIAL FALL PRICES, select untested. 1, \$1.25; 6. \$7.00; 12, \$13.00; 25 to 99, \$1.00 each; 100 and over, 90c each. Package bees for next spring delivery. Circular free. California Apiaries. J. E. Wing, Prop., 155 Schiele Ave., San Jose, Calif.

BOOKING orders for spring delivery. Queens, package bees, and nuclei. The reliable A. I. Root strain. Golden and leather-colored Italians. Virgins, 60c; untested, \$1.50; select untested, \$2.00; tested, \$2.50; select tested, \$3.00. Circular free. A. J. Pinard, 440 N. 6th St., San Jose, Calif.

FOR SALE—Three-banded Italian bees and queens. 2-lb. package with queen, \$4.75; without queen, \$3.75. Queens, \$1.00 each, \$11.00 per dozen; 25 per cent cash books order; safe arrival and satisfaction guaranteed in U. S. and Canada. We ship nothing but the best. W. C. Smith & Co., Calhoun, Ala.

EARLY SPRING delivery, 1922. Three-banded stock only. One Hoffman frame emerging brood, one good untested queen, one pound bees, April delivery, \$5.25 each package. Same as above. May delivery, \$4.75. 5 per cent discount on 25 packages or more; 10 per cent deposit to book your order. L. C. Mayeux, Hamburg, La.

I EXPECT to be ready to start shipping 3-lb. packages of bees with 1-frame brood and bees, 1 untested queen, at \$6.00; 2-frame with untested queen, \$4.50, about April 15. Young tested queen, 50c extra, or \$1.50 each. I think I was the second to ship packages of bees from this state and know how to serve customers. F. M. Morgan, Hamburg, La.

LARGE, HARDY, PROLIFIC QUEENS. Threetand Italians and Goldens. Pure mating and safe arrival guaranteed. We ship only queens that are topnotchers in size, prolificness and color. After June 1: untested queens, \$1.50 each; 6 for \$8.00; 12 or more, \$1.40 each; 25 or more, \$1.25 each. Tested queens, \$3.00 each; 6 for \$16.00. Buckeye Bee Co., Zoarville, Ohio.

WE know our queens are much better than all the rest. By actual test side by side, all workers look just alike. Three bands only. If they show the slightest trace of four bands, fire them back to us, for that shows very poor breeding indeed. Pure bred Italian bees only show three bands. Untested, \$1.00; select untested, \$1.25; tested, \$2.00; select tested, \$3.00. F. M. Russell, Roxbury, Ohio.

CONNECTICUT queens. Highest grade 3-handed Italians ready June 1. Select untested. \$1.25 each; 6, \$6.50; 12, \$12.00; 50, \$47.50; 100, \$90. Two lbs. bees with queen, \$5.00; 3lbs. with queen, \$7.00. Two-frame nuclei with queen, \$5.50; 3-frame with queen, \$7.50. Select virgin queens (not culls), 50c each, \$45.00 per 100. No disease and satisfaction guaranteed. A. E. Crandall, Berlin, Conn.

PACKAGE BEES, delivery April 15 to May 15, 1922. Three-banded Italians, no disease, safe arrival and satisfaction guaranteed. Inspection certificate with each package. 2-lb. pkg. bees with select untested queen, \$6.50: 3-lb. pkg. bees with select untested queen, \$8.50. 10% discount on orders of 25 or more packages; 25% books your order, Reference: A. I. Root Co., New Orleans, La.; R. S. Knight, 4927 Conti St., New Orleans, La.

FOR MAY AND JUNE DELIVERY—Place your order for our high-grade three-banded Italian bees and queens now. Take advantage of early order discounts by ordering now. We guarantee to please you. Prompt service and quality stock is our motto. We want your orders for bees on Root standard Hoffman frames, emerging bees. Pound packages and nuclei, with or without queens. Write for our prices and valuable information. Oscar Mayeux, Hamburg, La.

FOR SALE—1922 bees. Mr. Beeman, send your order early. First arrived, first served. Make shipment April 25 to June 5. Several years' experience. 2-lb. package three-banded Italian bees, 1 untested queen, \$5.50. 1st. We use pure sugar syrup; better than honey or candy to ship on; it contains water as well as feed. 2nd. Feeders are made more substantial, ½ larger and have screw cap that will not jar out. One-third down and balance just before shipment. Guarantee safe arrival all-over U. S. and Canada. A. J. Lemoine, Moreauville, La.

BURLESON ITALIAN BEES AND QUEENS—In 2 and 3 lb, packages; 1 2-lb, package with select untested queen, \$5.00; 25 or more, \$4.50; 1 3-lb, package with select untested Italian queen, \$6.25; 25 or more, \$5.75. Ten per cent with order, balance 10 days before shipment; 1000 colonies to draw from. Can deliver the goods on time. Safe arrival and satisfaction guaranteed. T. W. Burleson, Waxahachie, Texas.

THREE pounds of bees, a Hoffman frame of brood and honey, and an untested Italian queen for \$6.50. Discount allowed on large order. I guarantee satisfaction, safe arrival and free from any kind of disease. I will replace any package that arrives in bad order, or shortage, if given a receipt from the express company to that effect. 25% books your order for April and May delivery. E. J. Beridon, Jr., Mansura, La.

FOR SALE—Italian bees shipped with comb after April 15. With young queen, 2 lbs. at \$5.75 each; 3 lbs. at \$7.25 each. Nuclei, wired combs filled with brood, same prices respectively as pound packages. Queens, May and June prices, untested, \$1.50; 12. \$1.25 each; tested, \$2.25; 6, \$2.00. Discount on large orders. Certificate of inspection with shipment. Safe arrival and satisfaction guaranteed. 25% books your order. J. L. St. Romain, Hamburg. La.

FOR MAY DELIVERY, 1922—One vigorous Italian queen, one frame emerging brood, one pound bees. Price. complete, f. o. b. Bordelonville, \$5,00. Additional frames of brood, each \$1.00; additional pound of bees, each \$1.00. Queen introduced and laying enroute to you. Safe delivery and satisfaction guaranteed. No disease. Reference given. Orders booked one-fifth down. May delivery. Send for addresses of satisfied customers. Jes Dalton, Bordelonville, La.

NEW 1922 PRICES—On account of the present price of honey and recent reduction in the price of supplies we are now booking orders for our three-band leather-colored Italians at the following low prices: 2-lb. packages of bees, no queen, \$4.00; untested queen. \$1.25; 12. \$13.50. Select untested, \$1.50; 12. \$15.00; tested, \$2.25; 12. \$20.00. No disease. Safe arrival in U. S. and Canada and satisfaction guaranteed. Write for circular and prices on quantities. J. M. Cutts & Son, R. D. No. 1, Montgomery, Ala.

LOW PRICES—High quality stock for 1922. 2-frame nuclei and untested Italian queen, \$5.00 each; 25 or more, \$4.75 each. 3-frame nuclei and untested Italian queen, \$6.50 each; 25 or more, \$6.25 each. If tested queens are wanted, add 50c per nucleus. All prices f. o. b., Macon. Miss. No disease has ever been in our yards. Will replace any loss or refund money, on purchaser sending us bad order receipt from express agent. Terms: 10% of amount with order, balance just before shipment is made. Order early and get your bees when you want them. Hummer Bees, Queens and Service will give satisfaction. No queens except with nuclei. Geo. A. Hummer & Sons, Prairie Point. Miss.

BEES AND QUEENS—Vigorous leather-colored Italian queens, famous three-banded stock, also bees in packages. Two-pound package with queen, \$6.00; three-pound package with queen, \$7.25. If you wish a purely-mated queen in a package, add \$1.00. Three-frame nucleus with queen, same price as a three-pound combless package with queen, 90% of queens I sell are purely mated. These queens are from select breeding queens from recently imported stock, and every queen is young and laying, when taken from hive for shipment. These queens, from highly-bred stock, cannot be surpassed. I consider my queens a credit to the beekeeping world. Deposit of 25% required with order, balance payable just prior to shipment. My bees are healthy. Unsolicited testimonials vouch for satisfaction given in past seasons. Shipments begin about April 20 or first days of May, depending upon weather and season conditions. If bees do not arrive safely. I shall replace them or refund money. C. M. Elfer, St. Rose, La.

#### MISCELLANEOUS.

FOR SALE—Pure Saanen bucks, grade doe kids, Nubian doe, pure doe kids. G. White, Hillman, Mich.

CALIFORNIA wonder Corn for seed. Greatest producers wherever grown. Shelled Spanish peanuts. Save retail profits. James McKee, Riverside, Calif.

MEDICINAL roots and herbs are very profitable to grow. We especially recommend growing Golden Seal, which with good care will yield as high as \$10,000 per acre for each crop. It takes several years to mature but will average \$1000 a. year. Special Crops, a monthly paper, tells how. Sample copy, 10c; \$1.00 per year. Address Special Crops Pub. Co., Box "G," Skaneateles, N. Y.

#### HELP WANTED.

WANTED—Man with general experience for commercial apiaries. Exceptional opportunity, state qualifications and wages wanted. The Wood-ward Apiaries, Clarksville, N. Y.

WANTED—One experienced queen-breeder for season of 1922. Give age, experience and refer-ence in first letter, also wages desired. N. Forehand, Ramer, Ala.

I WISH a young man to learn the bee business. Start March 1, 1922. 400 colonies, and a big queen business. A fine chance for the right youngster. Allen Latham, Norwichtown, Conn.

EXPERIENCE AND FAIR WAGES given to active young man willing to work, for help in well-equipped beekeeping business of 600 colonies. Season April to November. State occupation, weight, height, age and experience. The Pettit Apiaries, Georgetown, Ont., Can.

#### SITUATIONS WANTED

WANTED-By married man, position with bees or poultry. Have 12 years' experience with bees. State wages and conditions. Emil Anderson, Box No. 216, Anita, Pa.

# 

or more, \$1.00 each.
0. Tested, \$2.00. Untested, \$1.20 each, 12 or more, \$1.00 ea Select Untested, \$1.50. Tested, \$2.00. No disease. Package Bees Priced on Request.

D. W. HOWELL Shellman, Ga., Box A3.



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### LEWIS 4-WAY BEE ESCAPES



Four exits from supers. Fits all standard boards. Springs of coppered steel. Made of substantial metal. Price each 18c postpaid. Made by 6.B.Lewis Company, Walertown, Wis., U.S.A. Sold only by Lewis "Beeware" Distributors.

## Southland Queens

3-banded leather-colored Italians. Packages and nuclei a specialty. Special Prices to Associations or Beekeepers on large orders. Write for circular. Mating guaranteed. Safe arrival guaranteed. Replacements made at once. Special attention given foreign shipments. Delivery April 15th or sooner.

Terms: 25% down, balance before shipping.

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Box 585

Hattiesburg, Miss.

#### CANDY FOR WINTER FEED

In winter bees sometimes starve with plenty of honey in the hive. Use candy and avoid this unecessary loss. Put up in large paper plates weighing two pounds each. Write for price, also catalog of Bee Supplies.

H. H. JEPSON

182 Friend St. Boston, 14, Mass.

### EVERGREENS

Hill's Hardy Tested Sorts

Best for windbreaks, hedges and lawn planting. Protect buildings, crops, stock, gardens and orchards. Hill's Evergreens are nursery grown and hardy everywhere. Hill's Evergreen book sent free. Write today. Beautiful Evergreen Trees at moderate prices. World's largest growers. Est. 1855.

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High or low wheels-steel or wood-wide or narrow tires. Steel or wood wheels to fit any running gear. Wagon parts of all kinds. Write today for free catalog illustrated in colors.

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SURE SERVICE

## ROOT GOODS

Airco foundation, hives, frames, smokers, tin goods, jars and tumblers. Everything for the beekeeper. Write for special prices. January Discount 3%.

Shipment from factory or branch nearest you to save you money. ORDER NOW. Hubam Clover Certified Seed, \$2.00 per lb.

#### THE SOUTHLAND APIARIES

Box 585

Hattiesburg, Miss.

Established 1885. Write us for catalog.

## BEEKEEPERS' SUPPLIES

The Kind You Want and the Kind That Bees Need

We have a good assortment in stock of bee supplies that are mostly needed in every apiary. The A. I. Root Co.'s brand. Let us hear from you; information given to all inquiries. Beeswax wanted for supplies or cash.

John Nebel & Son Supply Co. High Hill, Montgomery Co., Mo.





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Our rose book for 1922 ROSES OF NEW CAS-TLE tells you how to make rose growing a success. Published and elaborately printed in actual colors. Send for your copy today—a postal will do. Address HELLER BROS. CO., Box 118, NEW CASTLE, IND.



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Everything for the fruit grower, farmer or suburban home. Highest grade stock, low, direct-from-grower prices. You can be sure when you buy from us that stock is healthy, sturdy and ready to produce maximum results in fruit or flower.

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Our 1922 catalog, a mine of planting information, is free.

We have the exclusive sale of the Ohio Beauty Apple. WOODLAWN NURSERIES

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### BEES AND QUEENS for 1922

#### 5 PER CENT DISCOUNT FOR OR-DERS RECEIVED IN JANUARY.

One 1-frame nucleus with untested queen, \$4.00; one 2-frame nucleus with untested queen, \$5.00; untested queens, \$1.25 each; 12, \$1.10 each; tested queens, \$1.60 each; 12 or more, \$1.35 each; select tested queens, \$2.00 each. Breeders, \$5.00 at all times. Satisfaction and safe arrival guaranteed.

H. L. MURRY SOSO, MISSISSIPI

#### INDIANOLA APIARY

is now booking orders for 1922 for Italian bees and queens. Write for price list and circular. No disease. Bees inspected by State inspector.

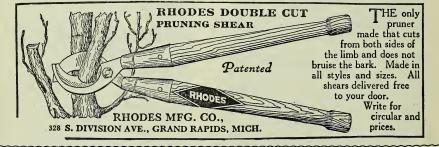
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A powerful portable lamp, giving a 300 candle power pure white light. Just what the farmer, dairyman, stockman, etc. needs, Safe—Reliable—Economical—Absolutely Rain, Storm and Bug proof. Burns either gasoline or kerosene. Light in weight. Agents wanted. Big Profits. Write for Catalog. THE BEST LIGHT CO.

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S. M. ISBELL & COMPANY 675 Mechanic St. (28) Jackson, Mich.



GLEANINGS IN BEE CULTURE

### BEES BY THE POUND FOR 1922

You who have tried our bees and queens know their good qualities. Those who have not tested them we suggest their giving us a trial order. Our thousands of satisfied customers testify to their superior traits. We are now booking orders for 1922 delivery, 10 per cent cash with order. No disease, safe arrival and satisfaction guaranteed.

PACKAGES BY EXPRESS
1-lb. packages, with queens \$4.00 each; 12 or more, \$3.75 each. 2-lb. packages, with queens, \$5.50 each; 12 or more, \$5.00 each. 3-lb. packages, with queens, \$7.25 each; 12 or more, \$6.75 each.

By parcel post 10 per cent extra on above.

Select untested queens, \$1.50 each; 12 or more, \$1.40 each.
Select tested queens, \$1.50 each; 12 or more, \$2.75 each.

We do not guarantee safe arrival of bees going to Canada by express. The largest sized packages we can ship by mail to Canada are the 1½-lb. size, as per above.

M. C. BERRY & CO., HAYNEVILLE, ALA., U. S. A.

that spell s-a-t-i-s-f-a-c-t-i-o-n, at prices pronounced r-e-a-s-o-n-a-b-l-e, our aim and achievement.

#### Prices of Queens for 1922.

	1	6	12
Untested	. \$1.50	\$8.00	\$14.00
Select Untested	. 1.75	9.00	16.00
Select Tested	. 3.00	16.00	30.00

#### HARDIN S. FOSTER

Dept. G.

Columbia, Tenn.

## 

Three-banded Italian Queens that must please. Pure mating and satisfaction guarteed. We do not claim to have the best, but do claim them to be as good. Untested Queens, \$1.25 each. Twelve or more, \$1.10 each. Tested Queens, \$1.60 each. Twelve or more, \$1.40 each.

#### CYPRESS BEE SUPPLIES

Hives, hive-bodies, bottom-boards, covers, frames, foundation, etc. Write for prices. All queens shipped from Crawford, Miss., all supplies shipped from Coker, Ala.

The Abston Apiaries Crawford, Miss. Coker, Ala.

Mr. Beekeeper, if you want good quality, quick service, prompt attention, and perfect satisfaction, try Norman Bros. pure three-banded Italian bees and queens. And see for yourself. We are going out to please our customers and to build up our business, and we know it will take honest dealing to do it. And we are going to send out just what we are advertising. Our bees are disease-resisting and are pure threeband Italians.

Orders booked with one-fourth down, balance ten days before shipment is desired. We ship only 2-lb. packages by express F. O. B. shipping point. \$4.20 each; 12 or more, \$4.00 each. Add prices of queens wanted. We guarantee pure mating, free from all diseases and safe arrival in U.S. A. and Canada.

Prices April and May.

Untested Queens.\$1.25 \$6.50 \$12.50 \$90.00 Select Untested. 1.35 7.00 13.20 100.00 Tested Queens. 2.00 11.00 21.00 Select Tested. 2.50 each NORMAN BROS. APIARIES

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More than that, the BARKER breaks the hardest crust into a level, porous, moisture-retaining mulch - all in the same operation.

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3			Town			

R. F. D. or Box . . . . . .



#### BARNES' HAND & FOOT POWER MACHINERY

This cut represents our combined circular saw, which is made for beekeepers' use in the construction of their hives, sections, etc.

#### Machines on Trial

Send for illustrated catalog and prices.

W. F. & JOHN BARNES CO. 545 Ruby Street RO:KFORD. ILLINOIS



## HUGHES HUBAM ALABAMA

Grown where it originated, under direct supervision of H. D. Hughes, the original discoverer and distributor. Genuine. Uniform types. Early or late. Use discretion.



Write for our Red Catalog with reduced price sheet.

Reductions are from 10% to 35% off our Spring and Summer prices.

LET US MAKE YOUR BEESWAX INTO FOUNDATION NOW, SO YOU WILL HAVE IT READY EARLY IN THE SPRING.

We also render wax from old combs and slum gum.

# Send Us a List of Your Requirements in BEE SUPPLIES

We sell the best possible goods at the lowest possible prices.

### W. T. FALCONER MFG. COMPANY

FALCONER (Near Jamestown), N. Y., U. S. A.

"Where the best beehives come from."



## Three-Banded Italians

Booking Orders Now for 1922. Queens Ready April 1



Our queen business has more than doubled itself the past two years, and we are look-looking forward to a bigger trade than ever during 1922; so we are enlarging our queen yards more than double in order to take care of all the trade that comes our way, and will endeavor to fill all orders on due time. We intend to fill all orders with queens raised in our own yards from our best breeding queens. Our Italians are gentle, prolific, very resistant to foul brood, and the best of honey-gatherers. We have sold a good many queens to parties who are using them in stamping out foul brood.

Will book orders for one-fourth cash, balance any time before delivery. Will guarantee safe arrival in the U.S. and Canada. See my ad in the December Gleanings. Circular free.

#### PRICES APRIL, MAY AND JUNE.

 Untested
 \$1.25 each; 25 or more
 \$1.00 each

 Select Untested
 1.50 each; 25 or more
 1.25 each

 Tested
 2.50 each; 25 or more
 2.25 each

 Select Tested
 3.00 each

JOHNEG. MILLER, 723 C STREET, CORPUS CHRISTI, TEXAS

## Honey and Hubam

The words are synonymous.

The nectar flow is abundant. Comes early and stays until late fall. Makes water-white honey so coveted by honey producers. Also a boon to the orchardist, the stock raiser, the general farmer. Seed Sense, our monthly magazine, tells about it. Just say HUBAM to us and we'll put you on our list.

Buy your seed of this wonderful new annual white sweet clover early. Buy it from a well-established firm with a reputation for squareness. Price now is \$2.00 per pound, for certified seed of our own growing.

The Henry Field Seed Co. Shenandoah, Iowa.



### Costs Only \$4.96, Complete

In an hour you can make a better brooder than you can buy. No tools needed but saw and hamer. It will do the work of 4 old hens and do it better. The materials, including heater, cost \$4.96.

I want you to try my Brooder and will send you plans for making it, together with a Putnam Brooder Heater, for \$4.75; all postpaid. Try the Brooder out and if you don't say it's the best Brooder you ever used, return the Heater in 30 days and get your money back. Your dealer will make you the same offer and guarantee. Ask him, but if he does not carry the Brooder Heater, send me \$4.75 and I will mail you a Brooder Heater and plans promptly.

Illustrated circular free.



## HUBAM

## THE NEW GIANT HONEY CLOVER

A mass of white bloom until late autumn, heavy with A-1 honey. A summer-long paradise for bees.

Hubam produces an almost incredible yield of honey, and, being annual, saves a year in crop rotation. Sown with grain, it matures after harvest for forage, soiling or seed. Six times as much nitrogenous material for plowing down as Red Clover.

1 to 4 lbs. per acre in 30-in. drills gives big seed yield. Tremendous demand—and the honey is "velvet."

Our Hubam is scarified and certified to be from original Ames stock. Write for further information and prices.



May Seed & Nursery Co. 120 Elm Street Shenandoah, Iowa



FEED the hopper, turn the wheel, and enjoy making your own wholesome whole wheat or graham flour, old-fashioned corn meal, rye flour, chops and hominy, and bring down living cost. Best coffee and spice grinder. If you have poultry, grind your chicken feed, save feed money and get more eggs.

Apache grinding plates of special mixture iron made to give longest wear. Steel ball bearings make it only a boy's job to run it. Send money or check today. Satisfaction guaranteed. For the present we can make prompt delivery. So don't delay.

### A. H. PATCH, Inc., Clarksville, Tenn.

The Apache Grist Mill is companion to the Black Hawk Corn Sheller, famous for 35 years for its "Can't Wear Out" Guarantee.

#### BUYING BEES IS LIKE—

Mr. Beekeeper! Buying bees is like buying other stock. The first consideration in the purchase of bees or queens is to get hardy, vigorous stock. Our bees and queens are noted to be very hardy, vigorous, and very resistant to diseases. The second consideration is getting them in time for the honey flow. Send us your order (large or small); you will not have to worry about bees not arriving on time, loss in transit, disease, etc. Do you realize that a nice frame of emerging brood is equal to a lb. of bees? Each package is shipped on a frame of emerging brood with honey. Also nuclei, full colonies. Pre-war prices. 10% will book your order. First-class references if desired. W. VOINCHE, BUNKIE, LA.

# Thagard's Italian

"BRED FOR OUALITY"

The secret of buying queens is not a matter of what you pay for them, but what kind you get. More and more beekeepers are discovering that Thagard Italian Queens have all the good qualities they desire. They are hardy, prolific, disease-resisting and honey producers. Place our queens against any you may obtain anywhere, and note the results. Safe arrival, pure mating guaranteed. Write for descriptive catalog.

1	6	12	Prices of Bees.	
Untested\$1.50	\$7.50	\$13.50	1	25 or more
Sel. Untested 1.75	9.00	16.00	One-pound package\$3.50	\$2.75
Tested 2.50	13.00	24.00	Two-pound package 5.00	4.50
Sel. Tested 4.00	22.00	41.00	10% discount for cash with	order.

V. R. THAGARD CO. - -GREENVILLE, ALABAMA



# Package Bees



Our queens will fill your hives, with bees full of "Pep"; to fill your supers full of honey, and your pockets bulge with money. Pure Three-Banded Italians only, at prices greatly reduced. Having spent the greater part of my life in Wisconsin and knowing conditions there, I want to call the attention of Northern beekeepers that we are especially interested in their welfare. Our bees and queens won Blue Ribbon at Mississippi State Fair this fall over all competitors. We constantly try to improve our stock and methods. We know we have the best mating hives especially for chilly spring weather. Cells are not given to mere handfuls of bees to hatch and mate. Ten-frame hives divided in three compartments and eight-frame in two. This is expensive equipment in that it takes lots of bees, but we are justified in doing this as there is a steady and growing demand for our queens. A postal brings our folder of prices, testimonials, etc.

We have the very best of shipping facilities, being on main line connecting North and South; few transfers have to be made to reach any point in northern U. S. and Canada. Shipments reach the following cities in record-breaking time: Chicago via St. Louis, one change, 26-30 hours; Detroit, 42 hours; New York, N. Y., 48-50 hours; St. Paul, Minn., 38-40 hours; Toronto and Montreal, Canada, 65 and 74 hours respectively.

Greenville, Miss., July 29, 1921.

Greenville, Miss., July 29, 1921.
Jensen's Apiaries,
Crawford, Miss.
Dear Sir:—I am very well pleased with the appearance of the fifty queens, in fact much more so than with those from any queen-breeder I have bought queens from in a learn time. ong time. Respectfully,
W. E. Elam,
Greenville, Miss.
Pres. Yazoo & Miss. Delta Beekeepers' Association.

Untested queens....\$1.10 each; over 25....\$1.00 each Select untested .... 1.35 each; over 25.... 1.25 each Tested, \$2.00; Select Tested, \$3.00. (Breeders, \$7.50 and \$10.00 each shipped on one-frame nucleus.)

2-frame Nuclei with young select queens .... \$5.50 each 
 Over 10
 5.00 each

 3-frame Nuclei with young select queens
 7.25 each

 Over 10
 6.75 each

1 lb. Italian Bees, \$2.75; over 10 packages, \$2.50 each 2 lbs. Italian Bees, 4.25; over 10 packages, 4.00 each 3 lbs. Italian Bees, 6.00; over 10 packages, 5.75 each

If queens are wanted, make choice and add price. Will start shipping about April 15th. Send your orders early with 20% to book and be assured of a crop in 1922.

We guarantee pure mating of queens, freedom of disease, safe arrival East of Rocky Mountains in U. S. and Canada. Prompt efficient service and complete satisfaction. We solicit your business.

APIARIES, Route No. 3, CRAWFORD, MISS

### NORTHERN-GROWN HUBAM SEED

BEEKEEPERS:—Now is the time for all beekeepers to secure the new Hubam annual sweet clover seed for planting on waste land next spring, and to interest and educate their neighbors in planting it. It will pay any beekeeper to give away seed and to instruct neighbors how to grow it, in order to secure bee pasturage from one of the greatest honey-yielders known.

DEALERS:—This is just the time to get prices and to interest prospects for spring. Get the county agents back of this valuable new clover, and arrange with us to get your seed at once.

Hubam seed will be sold by all branch offices of The A. I. Root Company, and by many of our authorized distributers.

Send for our free booklet "Hubam Clover—What It Is and How to Grow It," which contains prices and all necessary information for growing.

THE A. I. ROOT COMPANY MEDINA, OHIO.

## We Wish You a Happy and Prosperous New Year

Is there any better time to make out your order for supplies than now? Look over your stock, and send us a list of your requirements. We can give you the best attention at this time, besides an early order discount of 3% for this month.

Try sending in your order early this year, and see if it doesn't pay. We are here to serve you, and want to help make the season of 1922 the best ever.

#### F. A. SALISBURY

1631 W. Genesee St. Syracuse, N. Y.

## FOR YOUR 1922 REQUIREMENTS

We will quote you our new prices on your requirements of Bee Supplies. Send us your list.

New catalog in January. Send for one.

AUGUST LOTZ COMPANY, BOYD, WIS.

# BANKING BY MAIL AT 4%

### HAPPY HOMES

Health is the first step in success. Thrift is the next—it goes hand in hand with a happy home.

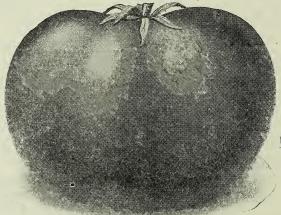
Open your Thrift Account with this strong, progressive bank at 4%—you can bank with us by mail. Write for Booklet.

THE SAVINGS DEPOSIT BANK CO.

A.T.SPITZER, Pres. MEDINA, OHIO







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Livingston's Famous Tomatoes

Standard everywhere—at Agricultural Colleges and Experiment Stations, among all gardeners and truckers, and finest for private gardens. We originate varieties for all climates and conditions, for local or distant markets. Hundreds of acres, tons of high grade seed, 60 years of experience as growers, all mean surest satisfaction and profit to planters of Livingston's True Blue Tomato Seeds. All size packages put up under United States registered Trade Mark seal. No other genuine Livingston grown. Order direct from us and protect yourself.

Livingston's Four Big Specials

Livingston's New Manyfold
Our latest introduction. Heavy cropper, Grows in clusters of from five fruits upwards. All marketable size Early to mature. Bright red—solid Excellent quality. Pkt. 15c, ½ oz. 40c, oz. 70c, ½ lb. \$2.00, lb. \$7.50.

Livingston's Stone
The greatest canning tomato in the world. Large, bright red, perfectly smooth. Big yentivation. Itself for and best keeper in yellow the property of the state of all purple-colored home market sorts. Strong grower. Very productive. Large, Ripens early, has firm fiesh of excellent gality. Pkt. 10c, ½ oz. 25c, oz. 45c, lb. \$5.00.

Eight entire pages in our New 1922 Catalog devoted to tomatoes

New Big Catalog FREE
One of the finest seed guides published. Gives truthful descriptions and helpful cultural directions of the best, reliable sorts of vegetable, flower and field seeds. A copy of this instructive 96-page book is ready for you now. Write for it today.

The Livingston Seed Co., 1147 High Street, Colnmbus, Ohio

## Italian Bees, Oueens and Drones for Sale

Write us for prices on Package Bees with or without queens. Nuclei, also with bees or queen added. Bees and queens by Parcel Post. Drones.

A card will bring our free circular and price list without obligation on your part.

R. V. STEARNS, BRADY, TEXAS



Try Achord's Package Bees and Queens

Three-banded Italians only.

We have the stock, equipment, and experience, and can give you prompt, satisfactory service. We have more than 1000 big, healthy hustling colonies of pure Italian bees to draw from. Write for illustrated price list.

W. D. ACHORD, FITZPATRICK, ALABAMA



## CYPRESS BEE SUPPLIES

WELL MADE

WHAT ELSE DO YOU WANT?

DURABLE

Order a sample and be convinced! Dovetailed Hive-bodies in lots of 100......60c each. Covers and Bottom-boards in lots of 100......50c each 

Quotations on Special Orders.

THE STOVER APIARIES, MAYHEW, MISS.

## LKING

Laws' Queens Speak for Themselves

Untested, each \$1.50; 12 for \$15.00. Tested, \$2.00; 12 for \$20.00 Select Tested, \$3.50 each; 12 for \$30.00.

Some very fine Breeding Queens too good to be idle. Will mail at \$5.00 each, or with a 3-frame nucleus by express for \$10.00. Write for prices on bees. Safe arrival and entire satisfaction.

W. H. LAWS - - BEEVILLE, TEXAS

## The Crowning Touch to the Home

It's just a house until you plant a garden. Then it becomes a home—a place where happiness can be found indoors or out—a living index to the

character of those who live within. No wonder real home-makers give such care to planning beautiful

The choice of varieties is made easy for you by the S. & H. catalog. S. & H. ornamental shrubs are carefully selected, vigorous plants, with abundant foliage and finely colored bloom. All seeds listed are taken from unusually fine strains, proven by our own trials. S. & H. trees are preferred by professional nurserymen and orchardists all over the country. Nearly every thing you need for your garden is listed.

Be sure to send tonight for this interesting, splendidly illustrated catalog.

#### THE STORRS & HARRISON CO.

Nurserymen and Seedsmen

Box 119 PAINESVILLE, OHIO



## 1922 PRICES

PACKAGE BEES with select threebanded Italian queens delivered to your address via parcel post, postage paid by me. Prices:

1-pound package with young Italian queen .....\$4.50 2-pound package with young Italian queen ..... 6.00 3-pound package with young or more packages.

> The high quality of my queens, combined with prompt service and reliability, justifies the above prices. Let me book your order now with 10 per cent cash, balance just before shipping. Will send bees on the day you name. Pure mating of queens, safe arrival, and satisfaction guaranteed.

### JASPER KNIGHT

HAYNEVILLE, ALA. 

## Package Bees

## Reliable Queens

GOLDEN AND THREE-BANDED ITALIANS

We are now in a position to accept orders for queens and bees for spring shipping in large quantities. We have the stock and experience necessary to handle your orders, whether large or small.

1-lb. Package with Queen..\$3.00 2-lb. Package with Queen.. 5.00 3-lb. Package with Queen.. 7.00 Tested Queen 1, \$2.50; six..12.00 Untested ....1, 1.25; six.. 7.00 Select Untest. 1, 1.50; six.. 8.00

We are in position to fill orders from 100 to 5000 queens or packages. Safe arrival and satisfaction guaranteed. Terms, 25% to book orders.

E. A. SIMMONS GREENVILLE - . - - ALABAMA N DEC. 31st, 1921, old Dad Time made a call on us. He gathered together all the things of the past year, the joys and sorrows, the sunshine and the shadows, the failures and successes, bid us a Good Day, and set out again on his rounds. He will be back, too, in just another year, for the package we will have for him.

We've been thinking since his visit, not so much of last year, but of the one ahead. For while we realize that our fine year at C. B., now just past, is due to the confidence our friends place in us, we are determined to warrant it by giving their continued business, close and promptest attention. Likewise we are determined that the mistakes of the past, and there were a lot of them, too, shall be real lessons to us, and that so far as humanly possible, they shall not occur again. We are thinking, too, that while beekeeping made splendid advances in 1921, it will go still forward in '22; and we renew our pledge to boost this fascinating business to the fullest extent of our ability in the year ahead.

What we are wishing for all is that when this punctilious Good Father calls on you again, he will find that the bundle you have for him then will be crammed full of success and true happiness. That's what we mean when we wish you all a glorious year in 1922.

#### THE A. I. ROOT COMPANY OF IOWA

Council Bluffs, Iowa

## Bees and Queens for 1922

Is there a great difference among bees and queens? Mr. Beekeeper, with bees and queens a small difference counts high. A small per cent better laying queen will greatly increase the field force; this will insure a larger honey yield per colony. A small per cent better worker will aid wonderfully. A small per cent more gentleness will greatly reduce the stings; this increases the efficiency and speed of handling, not counting the pleasure. A small per cent of better marking adds wonderfully to the beauty of the colony.

By developing the small quantities of my bees and queens I have attained marked success in producing better queens and bees. My aim is to produce bees and queens that will meet the high standard required by beckeepers. Let me book your order for 1922. One-fourth the full amount will insure your getting bees and queens when you want them most next spring. Perfect satisfaction, safe delivery, and pure mating guaranteed. Pure Italian bees and Three-band Italian queens of the better kind.

Untested—1, \$1.50; 6, \$7.50; 12, \$13.50. Selected Untested—1, \$1.75, 6, \$9.00; 12, \$16.50. Tested—1, \$2.50; 6, \$13.00; 12, \$24.50. Selected Tested—1, \$4.00; 6, \$22.00; 12, \$41.50. One pound bees, \$2.75; two pounds bees, \$4.75; three pounds bees, \$6.75. If queen is wanted with bees add price. Write for prices on large lots.

N. FOREHAND - - - RAMER, ALABAMA

## Our Crow

Will be sent you for the asking. This is our 1922 booklet with prices and twenty pages on selecting a strain of bees, rearing queens and packing and shipping bees. It tells you the good points to look for in a strain of bees and how

## Forehand's Three Bands

The Thrifty Kind

have stood the tests of America's best apiarists for thirty years. It briefly tells of the growth of our business since 1892. This little booklet will be interesting and helpful to all interested in apiary culture. A copy will be sent you free.

W. J. Forehand & Sons Fort Deposit, Alabama

## Give Us a Trial

We Ship When You Want Them. We Will Book Only What We Know We Can Fill.

## Italian Bees and Queens of the best strain

1-lb. Package....\$3.00; 15 or more....\$2.20 each 2-lb. Package.... 5.00; 15 or more.... 3.50 each 3-lb. Package.... 7.00; 15 or more.... 5.20 each

Young Queens Only

### Italian Queens a Specialty

Write Us Your Wants.

1 Selected Untested, \$1.50; 12 or more, \$1.20; 25 or more, \$1.10. Queens are raised for us by queen specialist and selected by us for our trade. 20% down books your order.

No Disease

Quality

Service

Valley Apiaries

A. W. Bryson, Prop.

La Feria, Texas

A Superior Quality at Less Cost

# **SUPPLIES**

MADE BY THE DIAMOND MATCH CO.

A Superior Quality at Less Cost

## One-Story Dovetailed Hives

Complete with Diamond Cover and Bottom-Board, Hoffman Frames, metal rabbets and all inside fixtures.

> Crates of five, eight-frame . \$10.50 Crates of five, ten-frame . . 11.00

## Standard Hoffman Frames

100 . . . . . \$ 5.50 500 . . . . . 25.00

Aluminum Honeycombs, as now made by Duffy-Diehl Co., are meeting with success. We carry these in stock to supply Eastern beekeepers.

## HONEY! HONEY!

Beekeepers who are supplying Honey to a regular family trade, or who are located along the highways, and are supplying motorists, know that their customers want a honey of a uniform color and flavor. And unless the honey is at all times uniform in color and flavor, customers sometimes become dissatisfied. Our special blend of Fancy Honeys (liquid) is always uniform and is of a fine mild flavor, and will satisfy the most exacting trade.

#### Special Blend of Fancy Honey (Liquid)

10-lb.	Tins,	6	per	case.				.16c lb.
5-lb.	Tins,	12	per	case.				.17c lb.
2 1/2 - lb.	Tins.	24	per	case.				.18c lb.

#### Various Grades, Crystallized, 60-lb. Tins

Water	White Orange14c	lb.
	White Clover or White Sage 13c	
	Light Amber Sage11c	
	State Buckwheat10c	

### GLASS & TIN HONEY CONTAINERS

2½-lb. Cans, 2 dozen reshipping cases,
\$1.45 case; crates of 100\$5.00 5-lb. Pails (with handles, 1 doz. reshipping
cases, \$1.35 per case; crates of 100. 7.7
10-lb. Pails (with handles), ½ dozen reshipping cases, \$1.10 case; crates of
50 5.79
60-lb. Tins, 2 per case—NEW, \$1.30 case;

## White Flint Glass, With Gold Lacquered Wax Lined Caps.

8-ounce	Honey	Capacity	·			
	• • • • • •	\$1.50	per	carton	of 3	dozer
16-ounce	Honey	Capaci	ty			
		\$1.40				
Quart of						
		\$1.0	0 pe	r cartor	of 1	dozer

## HOFFMAN & HAUCK, INC. WOODHAVEN, NEW YORK

# YOUR BEE SUPPLIES BEES and QUEENS

Order now from the

## Michigan Honey Producers Exchange

Send in your list of needs and we will quote prices. Your order can be in our first car. New clean goods.

If you are not a member of the Exchange, send us your order anyway and let us get acquainted.

Nothing but staple lines of quality goods will be handled by the Michigan Exchange.

### OUR PACKAGE BEES AND QUEENS

come from a large producer in Georgia.

### Order Now for Prompt Delivery----Prices

Untested Queens, \$1.00; Tested Queens, \$1.50 1 Pound Bees, \$2.00; 2-Pound Bees, \$4.00 3-Pound Bees, \$6.00

Your satisfaction guaranteed.

The MICHIGAN HONEY PRODUCERS EXCHANGE is an organization of beekeepers in Michigan and nearby States. You are invited to become a member of this co-operative organization.

Order your Supplies, Your Package Bees and Queens from the Exchange Now. Send for Price List.

## THE MICHIGAN HONEY PRODUCERS EXCHANGE, Inc. 7739 Linwood Ave., Detroit, Mich.

# Aluminum Honeycombs

This modern apiary appliance is being used by beekeepers in many states and countries.

Buy these combs from your regular dealer. Any bee supply dealer can furnish them. They are now carried in stock by the following:

#### In the East:

G. B. Lewis Company, Albany, N. Y. Fred W. Muth Co., Cincinnati, Ohio. G. B. Lewis Co., Lynchburg, Va.

#### In the North:

Dadant & Sons, Hamilton, Ill. A. G. Woodman Co., Grand Rapids, Mich. G. B. Lewis Co., Watertown, Wis. Standard Lbr. Co., Winona, Minn.

#### In the West:

Chas. H. Lilly's Co., Seattle, Wash., and Branches. Western Honey Producer's, Sioux City, Ia. Colorado Honey Producers' Assn., Denver, Colo. B. F. Smith, Jr., Fromberg, Mont.

G. B. Lewis Co., Wichita, Kans.

#### In the South:

J. J. Wilder, Waycross, Ga.G. B. Lewis Co., Memphis, Tenn.Texas Honey Producers' Assn., San Antonio, Tex.

### Lower Prices

For the season of 1922 the prices on Aluminum Honeycombs are greatly reduced.

Modified Dadant or Jumbo Frames.....60c each Langstroth or Hoffman Frames......50c each Shallow Extracting, any style......45c each

The above prices are f. o. b. factory or dealers' stock. Write to your dealer for quantity discounts on orders of 500 combs or over.

Be sure to buy the combs manufactured in Texas by

## THE ALUMINUM HONEYCOMB COMPANY OF TEXAS SAN ANTONIO, TEXAS





Unusually good conditions for wintering prevail up to this date.

The 1921 honey crop will be off the market before spring.

The demand for goods is and will be greater than ever before

Prices on bee supplies are moderate.

Better get your material ready for the bees during the quiet winter months. It spells success.

Why not take advantage of the early order quantity discounts on your season's equipment? Others do it, why not you?

Send for our 1922 catalog. We sell "Root Quality" goods only.

Our catalog for the asking.

We love to quote prices.

We want beeswax for cash or trade.



M. H. HUNT & SON 510 N. Cedar Street - - Lansing, Michigan







# **LATHAM'S** UEENS



### SUIT OTHER PEOPLE BESIDES LATHAM

"The 40 queens arrived in fine condition. All beauties."
"Those queens you sent me teat anything I ever saw. My hives are full of bees." I received from you

full of bees."
"The queen I received from you has the greatest amount of brood of any queen in my yard, and I have queens from nine diffe:ent breeders."
"We are delighted with the quality of stock you have sent us." (100 queens went here.)

"The 25 queens received July 1st are certainly fine."
"I am delighted with the queen

"I am delighted with the queen you sent me."
"The queen you sent me is a prize. I introduced her into one of my weakest colonies, and now she is laying in 20 combs. Nothing weak about that colony now."
"Your queens have been highly satisfactory in the past, so you see I am coming again. 'She-suits-me.'"

## SHE-SUITS-ME QUEENS ARE LINE-BRED ITALIANS

Vigorous, prolific, and throwing workers that are snappy and hustling, they meet the need of the practical beekeeper. They are dependable, and their presence in your hives means profit to you. You will wish some of the daughters of the queens selected as breeders for the season of 1922. Fifty full colonies and seven hundred nuclei devoted exclusively to my queen-rearing business.

PRICES-Untested from May 15 to June 15, \$2 per queen; if 10 or more go in one shipment \$1.75 per queen. After June 15 and until November from 1 to 9, \$1.50 each; from 10 to 24 \$1.30 each; from 25 to 49, \$1.25 each; from 50 to 99, \$1.20 each. 100 queens \$115.00. Tested queens \$3 the entire season.

DISCOUNT-Upon all orders received prior to April 1, 1922, a discount of 20% will apply.

TERMS-10% of price must accompany order to insure discount and booking, and the remainder must be remitted before the queens are mailed.



Send for price list of queens, packages, and nuclei. Packages for the New England States a specialty.

ALLEN LATHAM NORWICHTOWN, CONN.



## 1922 Prices

Compare them with last year's prices. Here are a few examples:

1921 Price	1922 Price
5 Hive-bodies and Frames \$12.25	\$8.00
5 Hives with Metal Covers 26.25	18.00
5 Supers, $4^{1}/4 \times 17/8 \dots 8.10$	4.75
Frames, per thousand 112.00	70.00
Sections, per thousand 22.00	15.00

Note the reduction of from 25 to 40 per cent. Early order cash discount for January, 3 per cent additional.

In spite of this great price reduction, Root Quality is now better than ever before, and is constantly being improved.

### \* \*

## Airco Comb Foundation

---the foundation with perfect cell base and made by improved refining process---is manufactured not only at Medina, but also at Council Bluffs, Iowa; San Antonio, Texas; Los Angeles, Calif., and Ingersoll, Ont., Canada.

## Brief History of the Honey Extractor

The first crude honey extractor was invented by Hruschka of Venice, Italy, in 1865. In 1869 A. I. Root constructed the first metal extractor with revolving reel and stationary can. This was called the Novice extractor, and at that time was a great improvement over any other extractor in use. Then came the Cowan extractor with swinging pockets, shortly followed by the Root Automatic with pockets reversed mechanically while at rest. Finally, in 1919, after years of experimenting, the Root Full Speed Reversing Extractor was perfected, and after two years of actual testing among all kinds of adverse conditions, it has proved to be the fastest and sturdiest machine ever built. Last season it withstood an overspeed test of 350 R. P. M., without injury to fragile combs.

Our 1922 catalog with greatly reduced prices is out. If you haven't yet received a copy of this handsome new edition, send for one at once.

Get your orders in early and save delay. There is a Root branch or dealer near you, which will give you prompt service and save you excessive transportation charges. Make use of our Free Information Bureau.

## The A. I. Root Company MEDINA, OHIO

New York, Philadelphia, Chicago. Indianapolis, St. Paul, Norfolk, New Orleans, Syracuse, N. Y.. Savannah, Ga.

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